

Clinical Medicine

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G. M. BLECH, M. D.

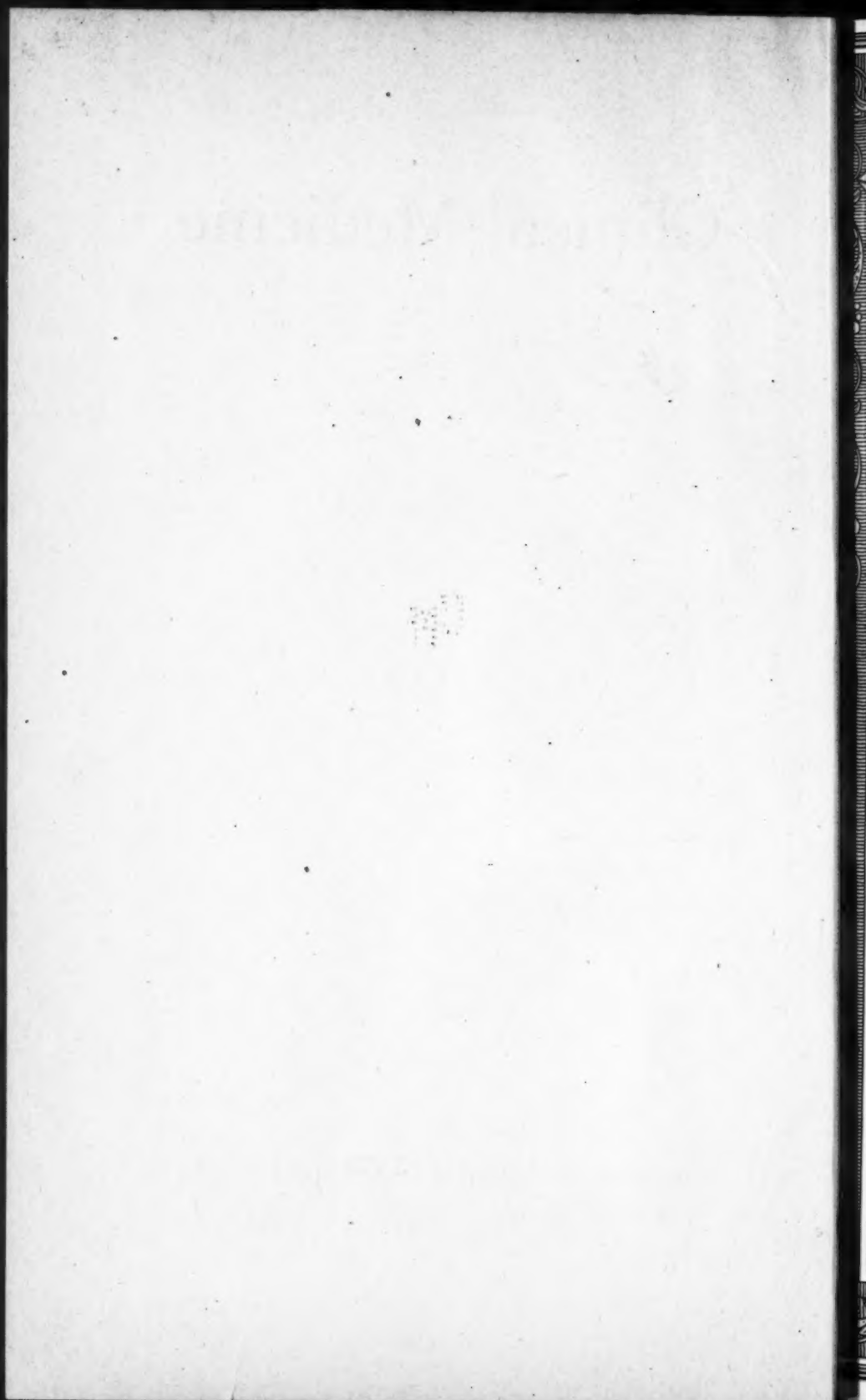
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Smile and Go Ahead!

ONE more year gone, another milestone past;
Twilight comes on, the night will follow fast,
But, through its blackness, silver moonbeams 'll
shed

Soft light to guide us o'er the road ahead.

WE MUST go on; the past year's joys and sorrow
Are memories dim today, and, come tomorrow
These too will fade. Rightly the lesson read
Means that LIFE runs before—the past is DEAD.
Go forward bravely then; great things await
The traveller who blanches not at adverse Fate.
"To him that OVERCOMETH, I will give," was said;
Trust in that promise—Smile and Go Ahead!

G. H. C.

January, 1924.

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The American Journal of **CLINICAL MEDICINE** *Dependable Therapeutic Fact for Daily Use*

Vol. 31, No. 1

January, 1924

A Happy and Prosperous New Year

ONE more year has gone down in history and another New Year has commenced. What it will bring, nobody can tell.

As a matter of fact, a new year to us is hardly of greater importance than a new month, new week, new day, each of which is replete with its own work, its peculiarities, duties and privileges, its sorrows and joys.

Nevertheless, it is well to have one term-day, as it were, one special time in the year in which to take stock, to inquire into what has been accomplished, what remains to be done—and, New Year is a good time for a little introspection, a little self examination, some planning, some preparation for what time may have in store for us.

On starting a new volume of CLINICAL MEDICINE, we naturally are planning for good articles, useful features, enjoyable material. As we have often said, we have no intention to limit the sphere of CLINICAL MEDICINE to that of a strictly medical journal. We wish to offer to our doctor friends a magazine that, not necessarily exclusively scientific, also affords them reading of general interest, information and advice on other topics than those intimately associated with the practice of medicine.

Times are changing fast, and physicians who were at the height of their useful lives fifty years ago would be greatly astonished if they could come back and investigate the problems of the physician today, which are by no means solely medical but, now more than ever, have their social, their economic aspects which are so entirely different from those of earlier times and so urgent that physicians can not afford to ignore them.

For many years, physicians have been separate, in a way, holding themselves aloof from outside affairs and devoting their entire time and strength (insofar as it was not demanded by their family and citizen duties) to their work as physicians. It is no longer possible for medical men to live as members of a circumscribed class, to avoid closer contact with the public, even in matters affecting the exercise of their profession. If we but think of the various ways in which medical men are influenced and directed in their work through bureaucratic supervision from Washington, if it is considered how greatly the tendency toward socialized medicine has gained ground and how much government lay agencies interfere with the work of the medical profession, how great a part of this work they arrogate

to themselves, if one contemplates the antagonism engendered and fostered against the medical profession by those who would enjoy its privileges but without being subject to its duties, one can not but think seriously of what the future has in store for us.

The fact is that we must change in accordance with the times, though without deviating from our ideals, without lowering the standard of the service that we wish to give. We can not afford as physicians or, for the matter of that, as citizens, to ignore the tendencies of the present time in accordance with which the practice of medicine is encroached upon by the government, is invaded more than ever before by irregulars, all of which has been instrumental in producing much undesirable and unfair legislation.

It is especially in the matter of legislation that physicians should manifest their interest by joining their county and state medical societies and by promoting the work of the legislative committees appointed by these societies. In each individual state of the union, a committee of the organized medical society should watch the legislatures while they are in session and should protest against the passage of such laws as are inimical to the best interests of the medical profession **because** these interests, after all, are identical with those of the sick.

Such legislation often not only interferes unduly with the work of the medical men but, even more especially, it tends to open the doors to the irregular practitioners who offer their services to the sick without adequate preparation and without having passed examinations as stringent as those to which regular physicians are subjected; who, moreover, employ unfair means of competition in their struggle to attract patients whom, all too often, they injure materially by improper treatment and then cast off, letting them return to their regular medical attendants when their means are exhausted.

Closely associated with the struggle for existence, in which the medical profession is handicapped, because of the two unfavorable influences that have been mentioned are **the economic problems of the medical practice**. The work of the physician can no longer be viewed entirely from the idealistic viewpoint that was content with an occasional "honorarium," a sort of free-will offering that was considered compensation for services rendered. Changing times and altered circumstances have brought it about, inevitably, that physicians should be financiers, or at least busi-

ness men, and that they should adjust the business side of their work in such a manner that they receive appropriate return for their efforts. We have no intention of discouraging the giving of medical services for charity, where charity is merited or where it is needed. What we do mean to say is, that deadbeats should be discouraged emphatically and should be refused our services. All along the line, we believe, the fees for medical services should be revised in accordance with the capital invested by the physician in his profession. That includes not only the money spent in preparation for the doctor degree, the cost of fitting out the office and of acquiring the various things necessary for the practice of medicine, but it also includes a proper "wage," or "salary," for the physician, which is sufficient to enable him to support himself and his family in keeping with the dignity of his social standing. In addition to that, his income should be large enough so that enough shall be left for investment to provide for old age, or for inability which may overcome any of us.

We must deal with the fact that the field of medical practice is restricted far more now than formerly. Thirty years ago, the young physicians would complain of the many patients who, while perfectly able to pay for medical services, received them gratuitously in dispensaries. The same difficulty still exists, but it has been increased manifold by numerous social and other agencies, community centers, Red Cross dispensaries, and so forth, that lessen the number of patients who otherwise would seek the services of qualified physicians.

We have no solution to offer for this problem. It is hardly possible, nor would it perhaps be desirable, to eliminate all these healing agencies. However, we do wish to point out that they should be conducted, more than is the case, under the supervision of physicians who should receive compensation for their services.

The excessive crowding of medical men in large cities, and especially in medical centers, stands in sharp contrast to the actual dearth of physicians in many country places and notably in parts of the country where the people are poor. We have before now (this Journal, July '23, p. 460) gone on record as insisting that the medical profession is neither crowded nor is it underpopulated. The trouble lies in the unequal distribution of practitioners, and it can be overcome by making provisions through which physicians, especially young graduates, after their hos-

pital year, can be brought in touch with localities in need of physicians—possibly having a certain minimum income assured them. The fact, that there are many districts in which there are no physicians at all or only old practitioners who would like to retire, calls for attention and the situation should be remedied.

The great importance of postgraduate study, especially after from five to ten years of practice, is being recognized more and more and many practitioners take occasional trips to medical centers for a period of brushing up and of further study. Such repeated courses of study should be made possible for all practitioners of medicine through a central bureau through which temporary substitutes could be secured.

The problem of the irregular practitioners can be dealt with best and most successfully, in our opinion, by procuring amendments to the medical-practice-acts in all states of the union, abolishing the special examinations and licensures and providing for one examination which must be passed successfully by every candidate for licensure for the practice of medicine, no matter what method of "healing" he may desire to practice.

Such legal enactments and their enforcement, as also other changes in existing circumstances that are injurious to the medical profession, can be secured if physicians are unanimous in demanding them. But, they can be secured only in that manner. If the reputable medical practitioners of the country were organized in one great democratic association, to which all of them should belong, they could secure whatever they chose to insist upon. "Politicians" need not read this sentence with a sneer, nor need they be afraid that physicians ever would demand anything that is unfair or unjust. It is fortunate that the best interests of the medical profession are identical with the best interests of the sick and of the public at large. We make this assertion despite the claims to the contrary that have been outlined so vividly by Bernard Shaw ("The Doctor's Dilemma") and by many others.

It would be well if all practitioners of medicine could become trained so thoroughly in the fundamental sciences and in clinical observation and the medical arts that they would see the futility of investigating every fad, every positive cure, every short-cut to successful practice, such as they are offered seductively by the various Wallingfords and Koretzes in our profession. We should eschew

running after strange gods, after every half-baked trick and foolish stunt that may be offered as alleged success builders. There is only one sure road to success: The careful study of medical problems and the equally painstaking study of our patients. As adjuvant, we may utilize a generous admixture of common sense.

Much is being said, and justly, about the tendency to over-specialization. We believe that it takes more brains, more good hard work, more patience and more all-around ability to be a good general practitioner than it does to be a specialist. The monetary return from general practice is less. However, the satisfaction, the sense of success, of good things accomplished must be laid in the balance and made to count.

We believe that physicians should take part in public life as much as they may without neglecting their patients, their families and their other duties. Physicians are especially equipped to serve on school boards and to keep in close touch with the education and the training of the younger generation. No matter how much professional reformers and others may decry the medical profession, its members, nevertheless, are looked up to and are approached for counsel. Let them be worthy of the influence that they may exert by setting an example of good, useful active citizenship. In our country, this citizenship must be American in the highest meaning of the word—that goes without saying. American citizenship does not mean jingoism, or chauvinism, nor does it mean kukluxism. It means—well, it means just to be an American.

A Happy and Prosperous New Year!

Every gift which is given, even though it be small, is in reality great, if it be given with affection.—Pindar.

THE BROOKLYN EXTENSION PLAN

In the abstract department of this issue of CLINICAL MEDICINE (p. 68), there is reproduced an account of the manner in which the medical profession of Long Island supplied the need on the part of the general practitioners for postgraduate study. This was accomplished through the agency of the medical society of the County of Kings, the Long Island College Hospital and the various hospitals in Brooklyn.

It is quite evident that the physicians in Long Island have appreciated the opportunity afforded them for continued study: the splendid attendance at the lectures bears witness

to that fact. We are convinced that medical societies in other parts of the country could accomplish the same for their constituent physicians and that they could afford corresponding opportunities which, we believe, would be utilized faithfully and with marked benefit.

Wise sayings often fall on barren ground; but a kind word is never thrown away.—Arthur Helps.

MR. BOK'S PEACE PLAN AWARD

The price of \$100,000 offered, several months ago, by Mr. Edward W. Bok for the best plan that would secure lasting peace and do away with war has, very naturally, aroused widespread interest. It is not only the very considerable award that has attracted notice, but it is the idea itself that caused one American citizen to set aside that considerable sum for the promotion of international amity. The price, it will be remembered, was offered for the "best practicable plan by which the United States may cooperate with other nations to achieve and preserve the peace of the world." The competition closed on November 15, by which time 22,165 plans had been received.

The jury of award, of which Elihu Root is chairman, has been at work on these plans since the middle of October and it is expected that it will have made its choice by January 1. During the month of January, the committee will present the winning plan to the American public for consideration. The public will be invited to express its approval or disapproval of this plan by vote.

Arrangements have been made for a referendum to be conducted:

1. Through the daily and weekly press.
2. Through the Cooperating Council of the American Peace Award.
3. Through Mayors' committees in many communities.
4. Through the universities and libraries of the country.
5. Through local organizations of all kinds.

It will, of course, be rather late for those monthly journals, which appear on the first of the month, to take part in the referendum, and, for that reason, we suggest that those our readers who are interested in the entire problem record their decisions on the voting slips contained in daily and weekly publications. However, we have made arrangements with the American Peace Award, 342 Madison Ave., New York City, through which we shall be enabled to print the winning plan, at least in digest, and, very probably, we shall also supply a ballot for those who have not yet cast their vote.

Anything that makes it possible or that tends

to prevent further wars should receive the whole-hearted countenance and cooperation of all thinking people. We may be pessimistic and fear that war can not be abolished "while human nature is what it is." If that is the case, why should it not be possible to change human nature? Difficult, no doubt. Yet, persistent education and example have accomplished things in the past that seemed just as difficult and just as impossible. At any rate, physicians, by reason of their calling, are in the front rank of those promoting the maintenance of peace. That being so, they will, very naturally, be interested in the results of Mr. Bok's offer.

DIPLOMA MILLS, QUACKS—AND OTHER IRREGULARITIES

The recent revelations of medical-diploma and licensure frauds, perpetrated in Missouri, Connecticut and other states, have afforded copy to newspapers—as a matter of course, and have also been discussed in medical journals (for instance the *J. A. M. A.* for November 3, 10, 17 and 24) and elsewhere. It goes without saying that the discovery of serious irregularities is being utilized by the friends of alleged medical freedom to further their own peculiar objects and to handicap the medical profession in its struggle to protect the public and the sick against unqualified practitioners and in its attempts to bring about more reasonable and just conditions in the matter of licensure for the practice of medicine.

We hold, as does common sense and as the law should do, that the practice of medicine includes everything that is done, for remuneration, for the relief of illness and physical inability. Anybody who offers his services to the sick and who expects to get paid for it is engaged in the practice of medicine, immaterial whether he be a so-called drug doctor (or, a regular practitioner), an osteopath, a chiropractor, a practitioner of mental suggestion, or therapeutics, a faith healer or what not. The law demands that those who wish to enter the practice of medicine and who desire to serve sick people by physical means shall give evidence of sufficient study and preparation by passing an examination. In many states of the union the state boards, which are charged with the licensure of practitioners on the basis of such examinations, have been multiplied unduly and examinations are held in some places for the practice of regular medicine, of eclectic medicine, of osteopathy,

of chiropractics and what not. It is rather peculiar that examinations have been overlooked for Christian Science healers and other faith healers, mental or suggestive therapeutics, and all the rest of them. The fees that would be paid by the candidates would provide some nice pocket money for somebody. It seems to have been the practice of some would-be physicians, who failed to pass the "regular" state board examinations, to take the homeopathic and then the eclectic examinations (which, it seems, were correspondingly less rigid) and so on down the line, until some sort of a license was secured.

All of this, of course, is wrong and really injures the people far more than it does the medical profession. The struggle of reputable physicians against irregulars, poorly schooled and insufficiently equipped practitioners has changed its form of attack into a direction that bids fair to be successful in the end. The demand, in short, is that everybody who wishes to serve the sick as a healer (whether as physician or surgeon or by mechanical means or through mental influences) shall demonstrate his ability by passing an examination which is the same for all candidates, in as much as the basic requirements are the same, and the knowledge of health conditions and of disease conditions should be obtained by every practitioner of the health arts, without reference to the means he employs to restore his patients to health.

We are greatly pleased with an editorial that appeared in *The Outlook* for December 5 and of which we reproduce a portion in the following:

ELIMINATING THE QUACK

The editorial in *The Outlook* (Dec. 5) to which we referred in the preceding article is herewith reproduced, omitting the first paragraph:

" . . . remedies for the present conditions resolve themselves into two. If medicine is to be respected as an essential art, competence for admission to it must be high and of a fair degree of uniformity the country over. Several states, among which is Connecticut, have 'multiple' examining boards, the 'eclectic,' osteopathic, chiropractic, and other sects having control of candidates of their own faith and setting up their own standards. These have failed to protect the public. *One competent, honest, and responsible board with power to examine all who aspire to practice the healing arts in any form is enough for any*

state. [*Italics are ours.—Ed.*] No man who does not know how to administer ether for a serious operation or who does not believe in the elementary principles of the prevention of typhoid fever or smallpox should be allowed to experiment on humanity. Further, the uniform requirements of the National Board of Medical Examiners should be extended to every state, by Federal action if necessary.

"But, the Connecticut scandals are symptoms of a deeper malady, affecting the whole philosophy of medical education. There is today a great outcry for 'medical freedom,' a sort of conscientious, sometimes religious, objection* to modern bacteriology, pharmacology, and animal experimentation, which are the tested tools of scientific medicine. With the widespread idea that medicine is a kind of magic in which there are various schools or factions, it is not strange that a credulous laity in increasing numbers is seeking all manner of cure-alls. The remedy for this, is a more effective education of the public to realize that medical science is in fact a science and to discriminate between science and pretense. The old-fashioned general practitioner, particularly in the rural districts, is dying out, displaced by the specialist attracted by the larger income and better facilities of urban practice. Medical training is a long, expensive process, requiring at best seven or eight years beyond high-school. Finally, the trend of the times is definitely preventive. People are no longer content merely to be salvaged in emergencies. They want to be kept well the year around.

"The state has a duty to establish scientific requirements for the practice of medicine and insist on them. We need more strategically located schools. How the cost of an adequate medical education can be reduced to fit the students who expect only a moderate income from a country practice is hard to see. The problem is one not only of medical but of general education."

People who are deeply religious do not usually "have religion."

"CANCER AND CIVILIZATION"

In an address on Cancer and Civilization, delivered by Frederick L. Hoffmann before

*It is difficult to understand how any sane person could have conscientious and religious objections to modern bacteriology, etc., the influence of which upon our knowledge of the causes of disease is well established. Whether a man does or does not "believe in the germ theory," affects the etiology of many maladies no more than Mr. Voliva influences the spherical form of the earth through his belief that it is flat.—Ed.

the Belgian National Cancer Congress (Brussels, Nov. 18-19, 1923) and published, in the U. S. A., by the Prudential Press (The Prudential Insurance Company of America), Doctor Hoffmann gives a condensed survey of the cancer problem as it presents itself to us today. One of the outstanding facts is, that cancer is clearly on the increase in all civilized countries. In the United States, the cancer mortality has increased from 63 per 100,000 in 1900 to 76.2 in 1910, and 86.0 in 1921*. There is small comfort in the fact that, in some European countries, the cancer mortality is far higher. So, for instance, in Switzerland, it has increased from 116.6 to 125.9 per 100,000 during the period of 1911 to 1920. In Holland, the increase is from 108.8 in 1911 to 115.0 in 1921, and so on through the list.

In the light of his investigations, Doctor Hoffmann concludes that "cancer is essentially a disease of civilized countries, and its increasing frequency is, in a large measure, no doubt, the direct result of faulty habits and the abnormalities of life, induced by the complex conditions of the modern environment, favored chiefly by food abundance, nervous strain and the numerous by-products of material prosperity.

"There is no evidence that cancer is transmitted by heredity, although further research in this direction is most urgent. In my judgment, the evidence derived in this respect, from animal experimentation, has no direct bearing upon the occurrence of cancer among human beings.

"Like considerations apply to the theory of cancer being transmitted from person to person, by means of infection. No evidence has been forthcoming tending to prove that the theory of a parasitical origin is more than a matter of conjecture. At the same time, there is no doubt but that parasitical infections may act as local irritants, and, in this respect, they are entitled to profound consideration. An important case in point is, for illustration, the occurrence of cancer of the liver among Europeans on the West Coast of Africa, which is only met with in cases of liver fluke."

Doctor Hoffmann is convinced that there is no medical cure for cancer and that the hope of the patient lies in the earliest qualified surgical and radiological or x-ray treatment

"supplemented by such methods as may otherwise commend themselves to the surgeon."

The pamphlet from which we have quoted some of the important data is instructive and is of immediate interest to physicians who, we believe, can obtain it on request from the Prudential Insurance Company of Newark, N. J.

The light in the world comes principally from two sources—the sun, and the student's lamp.—Bovee.

ABRAMS' DIAGNOSIS CONDEMNED

The *Bulletin of the Chicago Medical Society* for December 8 contains the following:

Whereas, it has come to the attention of the Medical Profession of Chicago that several of its members are using the so-called Abrams' Method of Diagnosis; and,

Whereas, the mass of evidence herewith attached is conclusive proof that such method of diagnosis is a fake and a fraud, and,

Whereas, we believe the practice of medicine should be kept on the same high plane it has occupied for centuries past;

Be it Therefore Resolved, that the Irving Park Branch of the Chicago Medical Society go on record as favoring the expulsion of such of the members of the Chicago Medical Society as are now using the Abrams' Method of Diagnosis, and that no physician shall be eligible for membership in the Chicago Medical Society who uses said method; and,

Be It Further Resolved, that these resolutions be presented to the Council of the Chicago Medical Society with the recommendation that they be concurred in.

The above resolution was adopted by the Council at its meeting held November 13, 1923.

If any member has any information relative to physicians using the Abrams' Diagnosis who are members of our Society, we would appreciate it if such names were sent to the Secretary's office.

[This is only one of numerous resolutions to the same effect that have been published by medical societies throughout the country. They show that the medical profession will not tolerate anything that its members believe to be based on fraud.

It is not the place here to determine whether the "E. R. A." (Electronic Reactions of Abrams) are fraudulent. We simply state the fact that they appear so to the majority of reputable medical practitioners.

We are quite aware of the fact that there

*According to the latest report from the Department of Commerce, at Washington (Dec. 19, 1923), the compilations made by the Bureau of the Census show the death rate from cancer, in the registration area, in 1922, to have been 86.8 per 100,000. In five states a slight diminution in the mortality rate for 1922 was recorded over that for 1921.

are many honest physicians who truly believe and are, indeed, convinced that the use of Abrams' methods has enabled them to establish diagnoses in cases of illness that had hitherto resisted all attempts at treatment, and that "electronic" treatment, according to Abrams, based upon such diagnosis had resulted in great benefit to the patients. Again, we refrain from either confirming or denying the correctness of these statements; we merely record the fact that we ourselves are in possession of letters from reputable physicians who insist strongly upon the great possibilities claimed to be inherent in the E. R. A.

Abrams' claims have been investigated repeatedly and by unbiased scientists; not only by medical men but also by electric engineers, or at least by people thoroughly conversant with the electronic problems involved. The verdict was absolutely unfavorable to Abrams' claims. That being the case, it behooves us to abide by the result of such investigations and not to waste our, and our patients,' time and their money in fruitless attempts at treatment. If the ideas on which the method is based are correct, further investigations are sure to be made and, ultimately, something worth while will be discovered. For the present, we, as a profession, can not afford to employ this method because it would not be for the best interest of our patients.—Ed.]

A lie has no legs, and can not stand; but it has wings, and can fly far and wide.—Warburton.

"A NEW DEPARTMENT"

The suggestion made by Dr. F. N. Richardson, of Cleveland, Ohio, in a letter reproduced on p. 67 of this issue of CLINICAL MEDICINE is, we believe, a good one and contains an idea which, as a matter of fact, we have carried out, more or less, for many years. We have always been more than willing to give space to articles of the kind that Doctor Richardson would like to see and we have frequently expressed the opinion that CLINICAL MEDICINE should be more than just a medical journal; in fact, that it should be and that we want it to be a magazine for the medical practitioner which could properly contain articles of interest to the doctor, even though they are not necessarily connected intimately with medical problems.

We should like to hear from many of our subscribers concerning their reaction to Doctor Richardson's suggestion. Such a communication need not necessarily be in the form of letters. In fact, it might be practical and

more effective if they were to come in the form of articles on the subjects suggested by Doctor Richardson and on other subjects that might be of general interest to doctors. We shall not establish a new department at this time; first we wish to find out whether the idea meets with the approval of our subscribers and also we wish to know whether they will contribute to it. Any communications that may be sent in and that are available will find publication in one of the existing departments. When such communications are sufficiently numerous to justify a special department, it will be established.

"MEDICAL ECONOMICS"

Here is an attractive little journal that is devoted exclusively to the business problems of the medical practitioner. The second number of Volume I has just come to us.

Medical Economics is published monthly, exclusively for physicians. It is edited by H. Sheridan Baketel and has a circulation of one hundred thousand copies a month.

The November issue contains an article by Dr. Eugene Lyman Fisk dealing with the physician as a patient. Doctor Baketel writes about car insurance. One article deals with group medicine in the small city; another one discusses the fundamentals of investment and speculation; still another one deals with our friend, the detail man, who is fittingly designated as "the liaison officer between manufacturer and physician."

There are other articles of considerable interest, such as, for instance, one on the favorite topic: Is the country physician passing with the horse?

Quite evidently, *Medical Economics* is going to "take", and we predict that it will "take big". Its possibilities are enormous because it is rightly asserted that the business problems of the medical practitioner have been sadly neglected. While there is hardly a medical journal that has not published occasional articles and even frequent editorials on the subject, no exclusive and deliberate plan has ever been followed.

We wish all sorts of success to *Medical Economics* and urge readers to ask for copies. The Editorial and Advertising offices are at 256 Broadway, New York City.

AUTOMOBILE FATALITIES

According to returns compiled by the Bureau of Census for the year 1922, it appears

that 11,666 deaths resulted, in that year, from accidents caused by automobiles and other motor vehicles (excluding motorcycles) within the death registration area of United States, which area includes 85 percent of the total population.

It is a rather sad reflection to note that the death rate from automobile accidents is steadily rising.

For 1917, it was 9.0 per 100,000 population.
 For 1918, it was 9.3 per 100,000 population.
 For 1919, it was 9.4 per 100,000 population.
 For 1920, it was 10.4 per 100,000 population.
 For 1921, it was 11.5 per 100,000 population.
 For 1922, it was 12.5 per 100,000 population.

We are informed that California leads all other states by a death rate, from this cause, of 26.0 per 100,000 population. Then follow

| | |
|--------------|-----------|
| New York | with 16.7 |
| New Jersey | with 16.4 |
| Colorado | with 16.3 |
| Illinois | with 15.0 |
| Maryland | with 15.0 |
| Rhode Island | with 15.0 |

The lowest figures are presented by

| | |
|----------------|-----|
| Idaho | 4.6 |
| South Carolina | 4.4 |

Mississippi 3.4 per 100,000 population, in 1922.

In the city of Chicago, in 1923, up to the date of writing (December 10), there have occurred 672 deaths due to automobiles. Taking the population of Chicago to be 3,000,000, the death rate per 100,000 population would be 22.4, closest of any to that of California.

It does not seem necessary to add any comment on these findings. We suspect that physicians are not entirely blameless in offending against the speed regulations, the violation of which is the most fruitful source of automobile accidents. The deplorable sacrifice of human life that is brought about by the abuse of this modern and useful mode of conveyance can be diminished and eliminated only through the emphatic insistence of public opinion. It seems as though laws, ordinances, regulations, and even police supervision and court action are not sufficient to impress upon motorists in general the necessity for careful driving, especially in city streets. Respect for regulations and, what is more important even, respect for the rights of pedestrians, will be aroused only when public opinion will take the trouble to insist upon it.

Physicians can influence public opinion to a great extent. Let them see to it that they themselves are blameless and then let them work for prevention in this matter as they do in so many others.

No man is big enough to be independent of others.

NARCOTIC LAW—ORDER FORMS FOR OPIUM, ETC.

The Treasury Department, Internal Revenue Service, Office of the Collector at Chicago, Illinois, recently sent out the following letter, the provisions of which should be noted by physicians in connection with their prescriptions of narcotic drugs.

The letter was accompanied by a small folder with the title: "Revoking Pro-Mimeograph, Pro. No. 217, Dated October 19, 1921; and Outlining Treatment of Narcotic Drug Addiction Permissible Under the Harrison Narcotic Law."

This little folder, which is dated May 21, 1923, and marked Pro-Mimeograph, Pro. No. 316, also contains information that must be heeded.

As long as the Harrison Narcotic Law is in force in its present form, the best thing for physicians to do is, to obey its regulations strictly and to the letter. It is to be hoped that the law will soon be modified in such a manner that it will place less of an objectionable burden upon the physician. In the meanwhile, though, the one thing to do is to obey. The collector's letter is as follows:

To Narcotic Registrants:

On and after January 1, 1924, only order forms for opium, etc., of the series of 1923 may be filled.

Persons qualified to fill orders (see Art 109½) are hereby authorized to accept forms of either series during the period November 26, 1923, to December 31, 1923, inclusive, if presented for filling.

The order forms for opium come in book form of 10 blanks each, original and duplicate, and the charge for blanks is 10 cents per book. Only one book will be furnished to a taxpayer with one requisition Form 679, such as is enclosed herewith, except in the case of a person registered in class 1 or 2. Remit by money order, or certified check made payable to the Collector of Internal Revenue; if currency is sent, be sure that it is affixed in such a manner that it may not become lost in the mail.

T. D. 3460 provides that, where a taxpayer has any unused order forms of prior series, this office will accept same in lieu of remittance in equal exchange for the new forms; order forms of such prior series cannot be otherwise redeemed. Books of old series must be returned and will be redeemed by the issuance of new series in proportion to the amount of book used, i. e., if four blanks have been used, the four duplicates will be taken out for your file and the balance of the book returned to apply on a new one at the rate of 1c for each blank returned. In the event a narcotic-tax payer has in his possession more than one book of unused order forms of the prior series, same should be retained by him and may be

submitted in lieu of remittance at the rate of one book for each requisition properly made out and signed. The mere fact that a taxpayer may have in his possession several books does not justify the issuing of more than one book at a time unless he is registered in class 1 or 2.

It is urged that narcotic registrants observe carefully the instructions on the reverse side of the series of 1923 order forms for opium when received as to properly executing same. It is advisable that the exchange of the old forms for the new ones be made as soon as possible in order that distribution be not delayed beyond December 31, 1923.

MABEL G. REINECKE (Mrs. Geo. W.),
Chicago, Ill. Collector.

To make good use of life, one should have in youth the experience of advanced years, and in old age the vigor of youth.—Stanislaus.

PHYSICAL PECULIARITIES OF DELINQUENTS AND CRIMINALS

Some years ago, the late Doctor Lombroso described certain physical peculiarities as being characteristic of the born or instinctive criminal and of delinquents. A recent health survey at the Chicago Bridewell, concerning which Edgar A. Jonas reports in the *Bulletin of the Chicago Municipal Tuberculosis Sanitarium* (Nov. 1923) shows no undue emphasis or noticeable predominance of the receding forehead, massive jaws, prognathic chin or asymmetric skull. As a rule, indeed, the shape of the skull and the contour of the features were fairly normal.

There were, of course, many different physical types at the Bridewell. Many were criminals or delinquents by accident and found themselves incarcerated as a result of an unfortunate sequence of circumstances; a drinking bout, a fight, a card game, disorderly conduct, domestic infelicity or non-support. This class of accidental delinquents had, as may be expected, no special physical characteristics. Then there were the chronic alcoholics presenting the physical stigmata of alcoholic excess; the drug addicts, malnourished, anemic, with rather a high percentage of tuberculosis. Practically all the inmates were from the bottom rung of the social ladder and presented certain physical evidence of their social status; old scars from knife or razor cuts, tattoo marks (practically always of a frankly sexual nature), amputations of joints and limbs or the loss of an eye. In brief, more numerous and serious physical defects, more evidence of neglect and ignorance were encountered than would be found in an equal number of the more favored classes.

THE PHYSICALLY HANDICAPPED

In the report on a health survey at the Chicago Bridewell, referred to in the preceding article, it is pointed out that the most representative criminal class to be found at the institution is perhaps the petty thief, or the pickpocket. The prisoners of this type studied were found to be below par physically in most cases. They were small, undernourished, anemic, evidently incapable of doing a day's physical work, even had they wished to do it. It seems probable that an individual of this type, in many instances, is pickpocket from necessity rather than from choice. He is physically unable to gain his livelihood in any other way. He has not been trained to an occupation suited to his physical condition and his lack of education bars him from suitable light employment. He must thieve or he must starve.

Perhaps we have been overemphasizing the mental aspects of the criminal or delinquent and failing to take into due consideration his physical makeup. A man of the laboring class, who is physically handicapped and who is not equipped by educational training to fill positions suited to his physical condition, will soon become a drifter and, eventually, a delinquent or criminal.

When circumstances, for which they are perhaps not fully responsible, take those physical derelicts, those criminals by necessity, to such institutions as the Bridewell, it is society's duty to try, as far as possible to promote their physical welfare. They are the class that fill our poor-farms and county hospitals, and each individual who is salvaged and returned to the pathway of health is a distinct economic gain to the community.

THE STRUGGLE FOR EXISTENCE AND THE PHYSICIAN

All over the world we have associations inaugurating campaigns and crusades against tuberculosis, against cancer, against venereal diseases and, most recently, against heart disease. Modern medicine, with its emphasis laid on the prevention of disease, and modern surgery with its marvelous successes in the reconstruction of the maimed have done much to preserve numerous lives that, in former times, would have fallen victim to death. In all acute infectious diseases, in tuberculosis and in many other directions, the mortality rates are diminishing. It is true, in constitutional diseases, notably in cancer, in heart dis-

case, in nephritis, the death rates are increasing and, incidentally, the mortality rates of accidents, especially through automobiles, or other motor vehicles, is assuming alarming proportions.

Still, with all the work that is being accomplished tending to find means to diminish the hazards of that most dangerous of all occupations, namely, that of just living, it would seem that the day is impending when people no longer die before their time, but pass out like the flame that has consumed both, the wax and the wick.

The great war has interfered sadly with that program and has destroyed, directly or indirectly, many million lives that should have continued and should have aided in the progress of the world. Unfortunately, each nation lost of its best stock, physically and mentally, and for some the loss can not be made good for many years. The impersonal philosopher might look upon war as a wise provision designed to prevent overpopulation. Wars have often been considered as timely instruments on the part of "nature" to bring about such results, but it is unfortunate that, through this instrumentality it is not the unfit that are eliminated but those who are most fit to accomplish the world's work: at least physically—to propagate their kind.

The writer remembers, over thirty years ago, acting as an assistant to Dr. Joel Goldthwait, in the Boston Children's Hospital, in whose outpatient department mainly orthopedic patients were treated. On one occasion, a particularly puny, miserable, deformed little specimen of humanity was lying on the table and Doctor Goldthwait looked at it, at the same time sorrowfully and yet contemplatively: "What's the use of preserving all these failures in life? They will never amount to anything; they won't do the world any good. We are acting directly in contravention to nature and, yet, we continue to save life wherever we can."

Of course, it is understood that the doctor merely expressed an idea that comes to every physician, and that he would have been the last to cease in his unrelenting efforts to prolong life, to remedy the physical imperfections and to restore functions wherever possible.

Still, it must be realized that medical science, in general, notably in orthopedics and more recently in preventive medicine, does much to perpetuate the unfit and that, on that account, the struggle for existence has shifted its ground somewhat, if, indeed, its purpose, namely, the elimination of the unfit, is to be accomplished.

We have no solution of the riddle and no suggestions. The preceding paragraphs merely contain some personal musings which may be idle and vain, as far as usefulness is concerned, since nature has a way of gaining its ends despite the interference of puny man. Although we may prolong the lives of ever so many unfit, and although, for a time, they may succeed in reproducing their kind, equally unfit or more so—in the end, we may be sure, Nature's purposes will be gained without our agency. We can safely go along mending and saving and protecting and preventing, doing the best we can. That is our business. We need not even think that we are opposing nature. As a matter of fact, we are not. In the struggle for existence, the unfit have a right to fight. They will succumb, ultimately. But, that we can not prevent.

HEALTH AND ACCIDENT INSURANCE

There are before us the latest reports of The Physicians' Casualty Association of America and of The Physicians' Health Association of America, both of Omaha, Nebraska. As is well known, while the two associations are independent, they are virtually under the same management and, in fact, The Physicians' Health Association is a sister, or a daughter, association of The Physicians' Casualty Association.

There can be no dispute about the advisability, even the necessity, of carrying both, health and accident insurance. That may be accepted as settled without discussion. What we are personally interested in, is the fact that these two associations are recruited by and maintained for physicians exclusively. Furthermore, while the benefits accruing to those of its members who suffer accidents or who become ill are equal to those offered by other concerns, the cost is very much lower. We believe it only fair to call the attention of those of our readers who do not know these associations to this opportunity to secure safe and ample health and accident insurance at a very moderate cost.

The present writer has been a member of both associations for many years; in fact, almost from the beginning of the P. C. A. and certainly from the beginning of the P. H. A. While he has never had occasion to claim benefits (except once for one week's illness), he considers his money as a splendid investment and has no hesitation in urging all physicians to join these two associations.

Leading Articles

Lingering Influenza

By MYER SOLIS-COHEN, A. B., M. D., Philadelphia.

Assistant Professor of Medicine, Graduate School of Medicine, University of Pennsylvania

BY the term "lingering influenza," the writer designates cases of influenza that prove resistant to ordinary treatment, whose convalescence is unduly protracted or which merge into a persisting toxemia associated with focal infections.

Symptomatology

The symptoms are quite varied.

The temperature, after subsiding in the acute stage, may not remain normal but, some time during the day, may show a slight elevation of a degree or so, especially on physical or mental activity. Other cases show persistent subnormal temperature, more especially those in which periods of subnormal temperature have characterized the acute stage.

Some cases exhibit an irritating, often paroxysmal cough that persists despite all treatment. Sometimes, no local cause for this cough can be discovered. Frequently, all that can be seen is a reddening of the mucous membrane of the throat and, sometimes, of the epiglottis. Occasionally, an area of bronchopneumonia remains unresolved. Expectoration may or may not accompany the cough.

Blocking of the nasal accessory sinuses is not uncommon. Associated with this, is another prominent symptom—persistent or recurring coryza. The nose may be stopped up or may discharge unduly, with occasional rhinorrhea, despite local and other treatment. Deafness, anosmia, loss of taste, hoarseness, aphonia and asthma may occur in varying degrees.

Asthenia is present in nearly every case and may persist for years. In these cases, it is probably an evidence of toxemia. It is to be differentiated from the cardiac weakness that results from straining of the myocardium by exertion and activity during the acute stage of illness. Nor is it to be confused with the poisoning of the heart muscle produced by the various coaltar products so frequently and so wrongly employed in the treatment of influenza, and which gave rise, thirty-four years ago, to the saying, "Influenza has slain its

thousands, but antipyrin its tens of thousands." It may manifest itself as a disposition to become tired easily or as marked weakness associated sometimes with attacks of faintness and even of fainting, frequently with dyspnea and palpitation on exertion, and occasionally with orthopnea. Most prominent of all, is the lack of energy and ambition, associated frequently with a disinclination to exertion, usually referred to by the patient as lack of "pep."

Other common symptoms are nervousness, irritability, depression, drowsiness, insomnia, anorexia, vertigo, loss of weight or failure to gain weight, headache, myalgia, neuralgia, myositis, arthritis and a tendency to perspire, particularly on exertion. Beating or throbbing in the head or ear are less common. They all are probably due largely to the toxemia.

Hemorrhage from the nose, lungs or uterus is a peculiar manifestation. Epistaxis may occur several times a day or there may be an occasional severe nose-bleed. It is observed in many patients who do not have an enlarged heart or any general or nasal condition that could explain it. Hemoptysis is a not infrequent occurrence. While, in some cases, it is associated with a small, healed, pulmonary tuberculous lesion, in others there is no tuberculosis present, despite the views and teachings of so many phthisiotherapists. One of the patients, for instance, who has had at least two pulmonary hemorrhages a year for twelve years, some quite large, presents a lesion at the base of the left lung, gives a negative Wassermann reaction, and has never had tubercle bacilli in his sputum on thirty or more examinations by many bacteriologists, some of whom have national and international reputations. Nor has his sputum killed a guinea pig when injected intraperitoneally. The absence of tuberculosis has moreover been confirmed by such authorities as Riesman, Landis and McCrae.

Menorrhagia and metrorrhagia occurred in a few of the writer's cases.

Maurosis, unexplained by any condition of the eye or of any other part of the body, was present in one case. Acne, furuncles, carbuncles and abscesses may develop, and even cystitis, appendicitis and cholecystitis. The writer believes that, in many instances, these are caused by the organism that is infecting the respiratory tract. It is not uncommon in such cases, as well as in other cases associated with upper-respiratory infection, to find the same organism in the upper respiratory tract and in the furuncle, the urine, the feces, and the excised appendix.

Failure of the patient to respond to the treatment that, as a rule, proves successful in cases of influenza is characteristic of the lingering form, as is persistence of the various phenomena, despite the employment of measures that commonly control them.

Physical Findings

On physical examination, some pathological condition of the upper respiratory tract ordinarily will be found. Diseased tonsils are common. They may be imbedded and not seen until the anterior faucial pillars are pulled aside. Frequently, purulent matter can be expressed from them. The nasal mucous membrane is often congested; some form of nasal obstruction may be present and one or more of the nasal accessory sinuses may be blocked or show infection. Occasionally, the epiglottitis and the larynx are congested. Examination of the chest in many instances reveals a bronchitis, sometimes associated with an asthmatic condition. Rarely, a spot of unresolved bronchopneumonia is found.

In a number of patients, lesions are present at one or the other pulmonary apex, or both, indicative of tuberculous infiltration. But the lesion may be healed and not active and not the cause of the symptoms. Such patients, however, are most frequently regarded as having active pulmonary tuberculosis and may be sent to sanatoriums. It must be admitted that discrimination is difficult, especially in the presence of signs at one or both of the apices, but the following points should be taken into consideration: Expansion, as a rule, is not restricted or lagging on the affected side. The area of consolidation does not increase in extent, even over a period of years. The breath sounds rarely show much change. Above all, there seldom are typical rales over the affected area, even after slight cough at the end of expiration. Repeated careful examinations of the sputum fail to reveal the presence of tubercle bacilli.

The discriminating physician, who thor-

oughly examines the chest of all his patients, is familiar with the wide prevalence of latent (1) and healed tuberculosis in patients coming to him with varied complaints. Such patients are subject to the same diseases as are other patients. It is even possible that the amount of antibodies used in combating the tuberculous infection tends to exhaust the defensive reactions and thus render these patients more susceptible to infection with other organisms. In the writer's experience, resistant non-tuberculous respiratory infection is common in such patients. It is difficult, however, for the physician to overcome the tendency to attribute wrongly to the tuberculous infection whatever other infection occurs in a patient with latent or healed tuberculosis.

The pulse, as a rule, is weak and frequent. The blood pressure is often low. The heart sometimes is enlarged. The heart sounds in many cases are weak and of poor quality, lacking in muscularity.

Throughout the course of this lingering infection, there, frequently, occur acute attacks of infection of some portion of the respiratory tract.

The Previous Medical History

When the anamnesis is thoroughly gone into, one can usually obtain a history of recurrent attacks of upper-respiratory infection preceding the attack of influenza. These may have occurred during childhood or throughout the patient's life. Frequently, a tonsillectomy has been performed—probably evidence of previous tonsillar infection.

The Etiology of Lingering Influenza

The persistence of the infection is due to the presence in the respiratory tract of organisms which the patient is unable to combat, and to their toxins which he fails to neutralize or eliminate promptly. These organisms may or may not include the one that causes influenza—whatever that organism be, whether Pfeiffer's *Bacillus influenzae* or Olitsky and Gates' *Bacterium pneumosintes* or some other organism already known or not yet discovered. It is possible that the etiologic organism of influenza is not of great virulence itself and persists for but a short time and that the serious symptoms and lesions are produced by, what are termed, secondary invaders. One might even conceive that the role of the influenza organism is, to activate and render more virulent other organisms already present in the respiratory tract or which may enter subse-

(1) Solis-Cohen, Myer: Latent Pulmonary Tuberculosis in its various disguises. *N. Y. Med. Jour.*, Jan. 22, 1921.

quently. It is possible that severe, fulminating and lingering cases are the result of a malignant symbiosis—an association that renders each organism or certain organisms more virulent, their combined attack overcoming the defensive reactions of the patient.

This theory would seem to be borne out by the previous history together with the bacteriologic findings. In these lingering cases, as has already been mentioned, there is frequently a history of previous attacks of upper-respiratory infection. It is probable that, in these cases, organisms that are pathogenic for the patient have been present in the upper respiratory tract for a long time prior to the influenzal attack and that antibody production against them has been very feeble throughout this period, becoming still more lowered with the onset of the influenzal infection. The bacteria present in these cases, as a rule, are those ordinarily found in infections of the upper respiratory tract.

Individual Resistance a Factor in Determining Individual Pathogenicity

The mere presence of an organism in the respiratory tract, however, is of no pathological significance. To have an etiologic relationship with an ailment from which the patient is suffering, an organism must be pathogenic for that patient. Whether a given organism is pathogenic for a particular individual, depends upon his immunologic response. It is well known that organisms in general differ in the degree of their pathogenicity for certain species of animals. The pneumococcus, for example, is pathogenic for the mouse but non-pathogenic for the pigeon. It is possible, however, for an organism that is generally regarded as pathogenic for man to be pathogenic for one individual and not for another. By means of the Schick test, for instance, one can separate those who are susceptible from those who are immune to the toxin of the diphtheria bacillus. One of the most important and easily demonstrable protective reactions is the bactericidal or bacteriostatic power that resides in the whole, coagulable blood of the resistant animal or individual. Thus, as demonstrated by Heist, S. Solis-Cohen and the writer (2), (3), the pneumococcus lives and

multiplies in the whole, coagulable blood of the susceptible mouse *in vitro* but disappears when seeded in the blood of the immune pigeon, the diphtheria bacillus grows luxuriantly in the whole, coagulable blood of the susceptible guinea-pig but disappears in the blood of the immune rat, etc., and, as shown by Matsunami and Kolmer (4) the meningococcus grows well in the whole, coagulable blood of the susceptible mouse but disappears in the blood of the immune rabbit. Similar differences in the reaction of their whole, coagulable blood to a given organism were found by Heist and the writer (5) in many human beings, leading to the inference that an organism is pathogenic to an individual in whose whole, coagulable blood, *in vitro*, it is able to live and multiply, and it is non-pathogenic to an individual in whose blood it fails to grow.

Method of Determining Whether a Given Organism Is Pathogenic for a Given Patient

This test for individual susceptibility or resistance to the organisms found on or in an infected area is easily made. A thin, wet smear from the infected area is rubbed on the bottom of an empty sterile test tube and three to five cubic centimeters of blood are drawn from a vein in the patient's arm and placed in the test-tube, which is then incubated for twenty-four hours. At the end of this period, a drop of the blood in the tube is plated and the organisms growing up are identified. Only those organisms grow up against which the blood lacks bactericidal power. The organisms against which bactericidal power is low, though not entirely absent, have their growth retarded, but a few are found in the culture in whole blood. By simultaneously inoculating Löffler's blood serum or some similar medium with the same smear, one can frequently find all or most of the organisms that were present on the smear, although the rapid and profuse growth of some organisms may choke off others.

It must be remembered, however, that the reaction with coagulable blood is a biological one and is doubtless affected by the relative proportion of blood and bacteria. It is conceivable that, when a relatively enormous number of organisms against which the blood has good bactericidal power is seeded in a rela-

(2) Heist, George D., Solis-Cohen, S., and Solis-Cohen, Myer: The bactericidal action of whole blood, with a new technique for its determination. *Jour. Immunol.* 1918, 3, 261.

(3) Solis-Cohen, S., Heist, George D., and Solis-Cohen, Myer: Observations on the behavior of diphtheria bacilli in whole, coagulable blood, with a comparison of the results of the tests for bactericidal and antitoxin immunity in the same persons. *Trans. Assn. Amer. Phys.*, 1920, 35, 263.

(4) Matsunami, Taisu and Kolmer, John A.: The relation of the meningococcal activity of the blood to resistance to virulent meningococci. *Jour. Immunol.*, 1918, 3, 201.

(5) Solis-Cohen, Myer and Heist, George D.: A method of distinguishing, from among various organisms present in a patient, those that are and those that are not acted upon by the patient's whole blood. *Penna. Med. Jour.*, Oct., 1921, 25, 27.

tively small amount of blood, the bactericidal substance may be exhausted before all the organisms have been killed, allowing the remainder to grow up. Conversely, when relatively few organisms against which the blood has feeble bactericidal power are implanted in a relatively large quantity of blood, enough of the bactericidal substance may be present, even though small in amount, to kill those few organisms.

Without this method of determining their pathogenicity to the individual patient, the finding of organisms on ordinary culture has no pathologic or clinical significance for the individual—even less than the finding of diphtheria bacilli on an immune carrier. The predominating organisms that most bacteriologists regard as the etiologic factors in an infection are merely those organisms that, in the particular culture and on the medium employed, happen to grow and multiply the most rapidly. They may be and frequently are non-pathogenic to the patient. Indeed, they may be in such relatively large numbers, in comparison with the organism that is pathogenic to the patient and the real cause of the infection, that they overgrow and choke off the latter which, consequently, may never appear on the ordinary culture. This has happened many times in the writer's experience. It requires but a glance at Chart 1, showing the bacteriologic findings in the individual cases, to demonstrate how frequent this is. (p. 18, fol.)

Combined Bacteriological and Immunological Study

A bacteriological study was made on fifty patients suffering from lingering influenza. The patient's immunological reaction to the bacteria present was also made in most cases. The sputum in a number of cases and the excised tonsils in most instances were studied without regard to the defense reaction.

Separate cultures were made of the rhinopharynx and each tonsil or tonsillar space (where the tonsils had been removed) in most of the cases, of the nares and the sputum in many cases, and of the teeth, urine and feces in a number of cases. On several occasions, smears from different areas were cultured together.

Most of the cultures were made by the writer. All those of incised tonsils, urine and feces and some of the others were made by the bacteriologist.

Most of the bacteriologic work was done by Dr. A. I. Rubenstone, Clinical Pathologist and Serologist to the Mt. Sinai Hospital, Philadelphia. Some was done by the late Dr. George

D. Heist, Research Worker in the Jules E. Mastbaum Research Laboratory of the Jewish Hospital, Philadelphia. A few of the cultures were made by Dr. John A. Kolmer, Professor of Bacteriology in the Graduate School of Medicine, University of Pennsylvania, by Dr. Edward Steinfield, Bacteriologist to the Jewish Hospital, Philadelphia, and by Louis S. Borow, who at the time was Research Worker in the Mastbaum Laboratory.

Streptococcus hemolyticus was present in 9 cases (18 percent), in 5 of which (10 percent) it was pathogenic for the patient and in 3 (6 percent) non-pathogenic. In one case, no test for pathogenicity was made.

Streptococcus viridans was present in 28 cases (56 percent), being pathogenic for the patient in 23 (46 percent) and non-pathogenic in 2 (4 percent). In three cases pathogenicity was not tested.

Other non-hemolytic streptococci were present in 22 cases (44 percent), being pathogenic for the patient in 14 (28 percent), slightly pathogenic in 3 (6 percent), and non-pathogenic in 1 case (2 percent). In four cases, pathogenicity was not tested.

Staphylococcus pyogenes albus was present in 44 cases (88 percent), being pathogenic for the patient, however, in only 20 (40 percent), being slightly pathogenic in 5 (10 percent) and non-pathogenic in 14 (28 percent). In five cases, pathogenicity was not tested.

Staphylococcus pyogenes aureus was present in 30 cases (60 percent), being pathogenic for the patient in 18 (36 percent), and non-pathogenic in 9 (18 percent). Pathogenicity was not tested in 3 cases.

Unclassified staphylococci (which may include the two above) were present in 4 cases (8 percent), being pathogenic for the patient in 1 (2 percent) and non-pathogenic in 2 (4 percent). Pathogenicity was not tested in 1 case.

Micrococcus catarrhalis was present in 41 cases (82 percent), being pathogenic for the patient in only 13 (26 percent), slightly pathogenic in 9 (18 percent), and non-pathogenic in 14 (28 percent). In 5 cases, no test for pathogenicity was made.

Micrococcus tetragenus was present in 1 case (2 percent), being non-pathogenic for the patient.

Pneumococcus was present in 20 cases (40 percent), being pathogenic for the patient in only 5 (10 percent), slightly pathogenic in 3 (6 percent) and non-pathogenic in 9 (18 percent). Pathogenicity was not tested in 3 cases.

Diplococcus crassus was present in one pa-

tient (2 percent), to whom, however, it proved non-pathogenic.

A Gram-negative cocco-bacillus was present in 2 cases (4 percent), being pathogenic for the patient in 1 (2 percent). In one, pathogenicity was not tested.

A Gram-negative bacillus was present in 3 cases (6 percent), being non-pathogenic in all.

Bacillus influenzae was present in but 3 cases (6 percent), being pathogenic for the patient in 2 (4 percent). In one, pathogenicity was not tested.

Bacillus diphtheriae was present in 3 cases (6 percent), being pathogenic for the patient in 1 (2 percent), slightly pathogenic in 1 (2 percent) and non-pathogenic in 1 (2 percent).

Bacillus pseudodiphtheriae was present in 31 cases (62 percent), being pathogenic for the patient in 15 (30 percent), slightly pathogenic in 2 (4 percent) and non-pathogenic in 12 (24 percent). Pathogenicity was not tested in 2 cases.

Bacillus Friedländer was present in 6 cases (12 percent), being pathogenic for the patient in 5 (10 percent) and non-pathogenic in 1 (2 percent).

Bacillus fusiformis was present in 3 cases (6 percent), being pathogenic for the patient in 1 (2 percent) and non-pathogenic in 2 (4 percent).

Leptothrix was present in 4 cases (8 percent), being non-pathogenic for the patient in all.

Saccharomyces was present in two cases (4 percent), being non-pathogenic in both.

But nine different organisms, therefore, were present in 10 percent or more of the fifty patients studied. Those appearing most frequently, without regard to their pathogenicity, were *Staphylococcus pyogenes albus* in 88 percent, *Micrococcus catarrhalis* in 82 percent, *Bacillus pseudodiphtheriae* in 62 percent, *Staphylococcus pyogenes aureus* in 60 percent, *Streptococcus viridans* in 56 percent, *Streptococcus non-hemolyticus* (other than *viridans*) in 44 percent, *Pneumococcus* in 40 percent, *Streptococcus hemolyticus* in 18 percent, and *Bacillus Friedländer* in 12 percent. From the standpoint of their pathogenicity for the patient harboring them, the order of the frequency of their appearance would be: *Streptococcus viridans* 46 percent, *Staphylococcus pyogenes albus* 40 percent, *Staphylococcus pyogenes aureus* 36 percent, *Bacillus pseudodiphtheriae* 30 percent, *Streptococcus non-hemolyticus* (other than *viridans*) 28 percent, *Micrococcus catarrhalis* 26 percent, *Pneumococcus*, *Streptococcus hemolyticus* and *Bacillus*

Friedländer, each to be 10 percent. All these figures probably would be increased slightly, had tests for pathogenicity been made in every case.

The Treatment of Lingering Influenza

Removal of the etiological factor is the chief object of treatment. So long as organisms, pathogenic for the patient, are present in the respiratory tract without the patient's antibodies being able to destroy them or neutralize their toxins, they will give rise to the various symptoms of toxemia and are likely to produce irritation or inflammation of some portion of the respiratory tract and may cause disease in various tissues and organs. Under such circumstances, permanent benefit cannot be expected from iron, tonics, heart stimulants, nerve sedatives, cough mixtures, endocrine products and local treatment of the nose and throat, although in some cases temporary improvement may follow their use.

The Advisability of Throat and Nose Surgery in Patients Suffering From Marked Toxemia

Pathogenic organisms that are entrenched in diseased tonsils as a rule finally exhaust their host's defense reaction. It then becomes impossible to raise the defensive powers to a sufficiently high level to destroy the infecting organisms, so long as they possess such strongholds. In these cases, the logical procedure would seem to be, to remove the diseased tonsils. However, apart from ridding the system of structures favorable to bacterial growth, tonsillectomy, bacteriologically speaking, removes merely the organisms contained in the tonsils. The organisms present in the nares, rhinopharynx, and other portions of the respiratory tract remain and may continue to grow and multiply and produce toxins. Sometimes, the removal of such a large proportion of the offending organisms, together with the removal of their chief fortress, relieves the strain on the defensive powers to such an extent that they are able gradually to re-assume activity and finally to produce sufficient antibodies to destroy the organisms that remain. This is probably what happens when patients recover completely after tonsillectomy. But, frequently, neither cure nor even improvement follows the operation. Especially in cases in which the immunologic processes are greatly depressed, as in lingering influenza, are the results disappointing. Patients in this condition usually require, in addition, to have their antibodies raised artificially by means of a proper vaccine.

The writer is of the opinion, moreover, that

there is a decided risk in performing tonsillectomy, as well as certain intranasal operations, upon persons whose immunologic powers are low. The serious complications of tonsillectomy, such as lung abscess, and of intranasal operations, such as meningitis, occur, the writer believes, in just such cases. The pathogenic organisms in the upper respiratory tract, against which the patient has little or no natural protection, probably swarm on the open wound and, entering the deeper tissues, the lymph spaces and the blood stream, without the blood being able to kill them, produce serious infection in other structures. They may also reach the lower respiratory tract with inspired blood and escaping portions of the removed diseased tissues. The appearance in the sputum, however, of so many, if not all, of the organisms present in the upper respiratory tract would seem to indicate that these organisms before operation already have access to the lower respiratory tract. Therefore, when the symptoms of a severe toxemia or the color of the mucous membranes indicate lowered resistance, it is the practice of the writer to raise the bactericidal power by the suitable administration of a proper vaccine before permitting tonsillectomy or other operation to be performed. Hence, in cases of lingering influenza—which spells low or absent antibody production—the writer postpones tonsillectomy and other operation (except sinus drainage) until, under vaccine treatment, a distinct improvement has occurred in the patient's condition. The operation is performed sometimes after the completion of, and sometimes during the course of, vaccine treatment. Complications are doubtless less to be feared when the blood has sufficient bactericidal power to take care of any organisms that may enter the system through the open wound.

Proper Vaccine Therapy

The writer does not regard as a proper vaccine one made from the organisms or the predominating organisms found on ordinary culture; for, as has been shown, such a culture may not contain the etiologic organism. In order to insure that there shall be included in the vaccine the organisms that are pathogenic for the patient, the culture must be made in the patient's whole, coagulable blood. Nor is it sufficient to include in the vaccine merely the organisms obtained from the excised tonsils; for the latter seldom contain all types of pathogenic organisms present in the respiratory tract. If cultures be taken separately from the tonsils, both *in situ* and excised, the nares, the rhinopharynx and the sputum, it will

be seen that frequently organisms pathogenic for the patient may exist on other portions of the respiratory tract without being present in the tonsils. The accompanying chart of the individual cases shows these variations when such separate cultures are made simultaneously. Therefore, if the bactericidal power of the blood is to be raised against all the etiologic elements, all the organisms, pathogenic for the patient, that are present in the respiratory tract must be included in the vaccine. Until we know more about the effect of symbiosis on the malignancy of bacteria, it may be well also to include in the vaccine a few of each organism present that appears non-pathogenic to the patient. Cultures, both on an ordinary culture medium and in the patient's whole blood, must therefore be taken from the nares, rhinopharynx, throat and sputum.

The Object of Proper Vaccine Treatment

It has been shown by Heist and Solomon Solis-Cohen (6) and later by Smiley (7) that the bactericidal power against the pneumococcus can be developed in the blood of the susceptible mouse by injecting dead pneumococci. Solomon Solis-Cohen, Louis S. Borow, and the writer (8), by injecting killed diphtheria bacilli in rabbits raised the bactericidal power of their blood against these organisms. Matsunami (9) by similar administration of killed meningococci raised the bactericidal power of the blood of rabbits against the meningococcus, and Black, Fowler and Pierce (10) also by administering a vaccine raised the bactericidal power of the blood of rabbits against the typhoid bacillus and against *Bacillus dysentericus* of Shiga.

For the purpose, therefore, of increasing the resistant power of the patient against the organisms present in the respiratory tract against which his blood shows deficient bactericidal power, the writer advises, in cases of lingering influenza, the proper administration of a vaccine properly prepared.

The Proper Method of Preparing Vaccine

As has already been stated, the vaccine should consist principally (that is 90 to 95 per-

(6) Heist, George D., and Solis-Cohen, Solomon: The bactericidal action of the whole blood of rabbits following inoculations of pneumococcus bacteria. *Jour. Immunol.* 1919, 4, 147.

(7) Smiley, H. Everett: Bactericidal action of blood of rabbits immunized against pneumococci. *Jour. of Infect. Dis.* July 1923, 33, 88.

(8) Solis-Cohen, Solomon, and Borow, Louis S.: Solis-Cohen, Myer: Further observations on the behavior of diphtheria bacilli in whole, coagulable blood. *Trans. Assoc. Amer. Phys.* 1921, 36, 98.

(9) Matsunami, Taitso: Studies on the meningococcal activity of blood. *Jour. of Immunol.* 1920, 5, 51.

(10) Black, J., Fowler, Kenneth, and Pierce, Paul: Development of the bactericidal power of whole blood and antibodies in serum. *Jour. Amer. Med. Assn.* 1920, 75, 915.

cent) of those organisms in the patient's nares, rhinopharynx, tonsils or tonsillar spaces, and sputum, which grow well in his blood. It may be wise to include in the vaccine a few (5 to 10 percent) of the other organisms present, in view of the possibility that the presence of these organisms may affect the virulence of the others and that symbiosis may play a part.

The culture should be studied and the vaccine prepared by an experienced medical bacteriologist, and not by a non-medical technician.

The Proper Method of Administering a Vaccine

The method of administering a vaccine is important. The common method of giving vaccine is as faulty as the common way of giving tuberculin. In both, the doses for all cases are decided upon in advance. On the package of stock vaccine, the manufacturer states the amount of each dose. The bacteriologist fills the ampules with doses of autogenous vaccine determined by him and marks them 1, 2, 3, etc., or puts the vaccine in a bottle on the label of which he prescribes the amount of increase. The immunologic reactive power of the individual patient in each case is ignored.

A number of years ago, the writer showed how widely tuberculous patients, varied in their hypersensitiveness to tuberculin (11). His experience with vaccines of other organisms has convinced him that different people differ greatly both in their hypersensitiveness to the antigens of different organisms and in the rapidity and degree of their artificially stimulated antibody production. Hence, it is necessary to study each patient separately and to individualize strictly in administering a vaccine.

Determination of Dosage in Proper Vaccine Therapy

The initial dose should be small, as we have no way beforehand of measuring the degree of hypersensitiveness. The exact amount is of less importance than is the quantitative gradation of the subsequent doses.

It is safe, as a rule, to begin with a dose of 50,000,000 killed organisms. Very occasionally, a severe reaction will follow, but seldom with serious consequences. The amount of any subsequent dose, however, should be based upon the patient's reaction to the immediately preceding dose.

When a given dose produces no reaction at all, it may be considered safe to increase it by 100,000,000 after the second dose or by 150,-

(11) Solis-Cohen, Myer: Hypersensitiveness to tuberculin as determined by intracutaneous injection of different doses. *Jour. Infect. Dis.* 1917, 20, 233.

000,000 to 200,000,000 after the fourth dose. 50,000,000 is sufficient for the first increase. If the reaction be slight, the second and third doses may be increased by 50,000,000 and subsequent doses by 100,000,000 to 150,000,000.

When the reaction is moderate, the first three or four increases should be about 50,000,000 and the subsequent ones 75,000,000 to 100,000,000.

After a severe reaction, the previous dose should be repeated. When the reaction is very severe, the previous dose must be diminished.

The interval should never be less than five days. As the injections must be made during the positive phase of the reaction, sufficient time must be allowed to elapse for the completion of the negative phase. After a severe or prolonged reaction and after the larger doses, it is better to wait seven or ten days.

When a dose of 1,000,000,000 has been reached, this should be repeated several times and the course then terminated.

The Reaction to Bacterial Antigens

The reactions that follow the subcutaneous injection of a vaccine are of three kinds: local, general and focal. The last two are of infrequent occurrence when care is exercised in the determination of dosage.

The common symptoms of a general reaction are, malaise, tire, drowsiness, general aches, slight fever and headache. Occasionally, these symptoms may be quite marked and a rigor may even occur.

The focal reaction is characterized by the appearance, recrudescence or increase of morbid phenomena referable to the infected area, such as sore-throat, increase of cough and expectoration, etc.

The local reaction is studied by the writer in the same manner as he studies local reactions from intracutaneous injections of tuberculin (12).

The areola, or red area, is observed with regard to the intensity, size, time of appearance and duration.

The induration is likewise studied in reference to size, intensity, time of appearance and duration.

The tenderness is noted as to intensity, time of onset and duration.

A papule, which is rare, is merely regarded as very marked induration.

Operative Treatment

Whenever, in cases of lingering influenza, (12) Solis-Cohen, Myer: A method of determining the appropriate dose of tuberculin for the individual tuberculous child. *Archives of Pediatrics*, Nov., 1920, vol. 37, p. 641.

[illegible]

Key to Chart; 1 R = A. I. Rubenstone H = George D. Heist S = E. Steinfield K = John A. Kolmer B = L. S. Borow 2 L = Löffler's blood serum BA = Blood agar
R = Patient's whole, coagulable blood 3 + = Present X = Few present ? = Very few present 0 = Absent

[illegible]

[illegible]

| Case | Date | Examiner | Part Cultured | Culture Medium | Strep. hemolyt. | Strep. viridans | Streptococcus non-hemolyt. | Staph. pyogen. albus | Staph. pyogen. aureus | Staph. (unclassified) | Micrococcus catarrhalis | Mitracoccus | Pneumococcus | Pneumo-Strep. | Gram-neg. coccobacillus | Gram-neg. bacillus | Bacillus coli. | Bacillus diptheriae | bacill. pseudo-diph | Saccharomyces | Bacil. Friedlander | Bacillus tuliformis | Bacillus influenzae | Leptothrix | Diplococcus crassus | Contamination |
|------|-------------------------|----------|--|-------------------------|-----------------|-----------------|----------------------------|----------------------|-----------------------|-----------------------|-------------------------|---------------|---------------|---------------|-------------------------|--------------------|----------------|---------------------|---------------------|---------------|--------------------|---------------------|---------------------|---------------|---------------------|---------------|
| 48 | 1-2 7-20 10-7 '22 | H | Nares, Rhino-pharynx, Tonsils..... Nares..... Both Tonsils..... Rhino-pharynx..... | B. L. B. L. B. L. B. | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | ++X++ | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | | |
| 49 | 9-29 '23 | R | Right Tonsil..... Left Tonsil..... Both Nares..... Rhino-pharynx..... | L. B. L. B. L. B. L. B. | 0 0 0 0 0 0 0 | ++X++ | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | | |
| 50 | 7-20 '23 | R | Right Tonsillar Space..... Left Tonsillar Space..... Rhino-pharynx..... | L. B. L. B. L. B. L. B. | 0 0 0 0 0 0 0 | X++X++ | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | X++X++ | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 | | |

tonsils are diseased, they should be removed, preferably after or during a successful course of proper vaccine treatment. One must not be deterred from this by apparently complete recovery under vaccine treatment alone. No patient is safe with diseased tonsils. The writer possesses considerable bacteriological and clinical evidence that much visceral disease—endocarditis, myocarditis, nephritis, pyelitis, cystitis, cholecystitis, appendicitis, arthritis and affections of other organs—is produced by upper-respiratory infection. With diseased and infected tonsils remaining, one cannot look for permanent cure. Complete cure of intranasal diseased conditions, however, without operation has occurred in the writer's experience when a patient has received proper vaccine treatment and has had diseased tonsils thoroughly removed.

Summary of Cases Reported

Fifty cases form the basis of this report. Eighteen were of the male sex and 32 of the female. The youngest patient was 8½ years of age, the oldest 70 years. Two patients were in the first decade, 3 in the second, 20 in the third, 14 in the fourth, 7 in the fifth, 1 in the sixth and 3 in the seventh.

The duration of the disease varied from 3 weeks to 28 years. It lasted 3 to 5 weeks in 4 cases, 6 weeks to 2 months in 6 cases, between 2 and 4 months in 3 cases, between 4 and 6 months in 2 cases, between 6 and 9 months in 2 cases, between 9 and 12 months in 2 cases, between 12 and 18 months in 5 cases, between 18 months and 2 years in 3 cases, between 2 and 3 years in 3 cases, between 3 and 4 years in 6 cases, between 4 and 5 years in 5 cases, 6 years in 1 case, 12 years in 2 cases, 16 years in 1 case and 28 years in 1 case.

Demonstrable disease in the upper respiratory tract was present in 35 (70 percent) of all the patients, absent in 12 (24 percent) and not noted in 3 cases. One patient was cured by tonsillectomy and vaccine therapy.

Two patients improved and twelve failed to improve after tonsillectomy alone. Of the latter, one was cured, six were improved and two were unimproved by subsequent vaccine treatment, while three did not receive any.

Eleven other patients were not given vaccine.

CHART 2

Bacteria Present in 50 Cases of Lingering Influenza, Divided According to Their Pathogenicity for Their Host.

| | Present in: | | Pathogenic for the patient in: | | Slightly pathogenic for the patient in: | | Non-pathogenic for the patient in: | | Pathogenicity not tested in: Cases |
|--|-------------|----|--------------------------------|----|---|----|------------------------------------|----|------------------------------------|
| | Cases | % | Cases | % | Cases | % | Cases | % | |
| <i>Streptococcus hemolyticus</i> | 9 | 18 | 5 | 10 | 0 | 0 | 3 | 6 | 1 |
| <i>Streptococcus viridans</i> | 28 | 56 | 23 | 46 | 0 | 0 | 2 | 4 | 3 |
| <i>Streptococcus non-hemolyticus</i> (others)..... | 22 | 44 | 14 | 28 | 3 | 6 | 1 | 2 | 4 |
| <i>Staphylococcus pyogenes albus</i> | 44 | 88 | 20 | 40 | 5 | 10 | 14 | 28 | 5 |
| <i>Staphylococcus pyogenes aureus</i> | 30 | 60 | 18 | 36 | 0 | 0 | 9 | 18 | 3 |
| <i>Staphylococci</i> (unclassified)..... | 4 | 8 | 1 | 2 | 0 | 0 | 2 | 4 | 1 |
| <i>Micrococcus catarrhalis</i> | 41 | 82 | 13 | 26 | 9 | 18 | 14 | 28 | 5 |
| <i>Micrococcus tetragenus</i> | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 0 |
| <i>Pneumococcus</i> | 20 | 40 | 5 | 10 | 3 | 6 | 9 | 18 | 3 |
| <i>Pneumo-streptococcus</i> | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 0 |
| <i>Staphylococcus crassus</i> | 1 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| <i>Gram-negative coccobacillus</i> | 2 | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 1 |
| <i>Gram-negative bacillus</i> | 3 | 6 | 0 | 0 | 0 | 0 | 3 | 6 | 0 |
| <i>Bacillus influenzae</i> | 3 | 6 | 2 | 4 | 0 | 0 | 0 | 0 | 1 |
| <i>Bacillus diphtheriae</i> | 3 | 6 | 1 | 2 | 1 | 2 | 1 | 2 | 0 |
| <i>Bacillus pseudodiphtheriae</i> | 31 | 62 | 15 | 30 | 2 | 4 | 12 | 24 | 2 |
| <i>Bacillus Friedländer</i> | 6 | 12 | 5 | 10 | 0 | 0 | 1 | 2 | 0 |
| <i>Bacillus fusiformis</i> | 3 | 6 | 1 | 2 | 0 | 0 | 2 | 4 | 0 |
| <i>Clostridium botulinum</i> | 4 | 8 | 0 | 0 | 0 | 0 | 4 | 8 | 0 |
| <i>Actinomyces</i> | 2 | 4 | 0 | 0 | 0 | 0 | 2 | 4 | 0 |

Of 25 patients receiving vaccine treatment without tonsillectomy, 3 were cured, 16 were improved, five failed to improve, while one received benefit from one course of vaccine but not from others. One of those that had failed to improve was benefited subsequently by tonsillectomy followed by vaccine therapy. Of those that had improved, three were cured by subsequent tonsillectomy followed by a course of vaccine or by a continuation of a course of vaccine that had been interrupted by the operation.

Of the seven other patients that failed to improve, one was found to be suffering from psychosthenia due to a mental conflict and was cured by its correction by a neurologist, one probably has calcareous deposits in the larynx, one probably requires tonsillectomy, and one the vaccine was administered by a physician in another city, who apparently did not follow directions.

Summary

—Cases of influenza, that prove resistant to ordinary treatment, have an unduly prolonged convalescence or become characterized by persisting toxemia and focal infection, are included under the term "lingering influenza."

—The symptoms are those of a toxemia or of a focal infection with many manifestations, such as an inflammation or irritation of some portion of the respiratory tract with a tendency to hemorrhage.

3.—In most cases, demonstrable disease of the upper respiratory tract is present and the patient gives a history of previous attacks of upper-respiratory infection.

4.—The bacteria present are those ordinarily found in infection of the upper respiratory tract. The organisms present in 10 percent or more of the fifty cases reported were nine in number. In the order of the frequency of their appearance, these are: *Staphylococcus pyogenes albus* in 88 percent, *Micrococcus catarrhalis* in 82 percent, *Bacillus pseudodiphtheriae* in 62 percent, *Staphylococcus pyogenes aureus* in 60 percent, *Streptococcus viridans* in 56 percent, *Streptococcus non-hemolyticus* (other than *viridans*) in 44 percent, *Pneumococcus* in 40 percent, *Streptococcus hemolyticus* in 18 percent, and *Bacillus Friedländer* in 12 percent.

5.—It is possible to determine whether the organisms are pathogenic to the individual patient by culturing them *in vitro* in his fresh, whole, coagulable blood and noting whether they disappear or multiply. Considering only those which grew in the blood of the patient, these same organisms assume the following order of frequency: *Streptococcus viridans* in 46 percent, *Staphylococcus pyogenes albus* in 40 percent, *Staphylococcus pyogenes aureus* in 36 percent, *Bacillus pseudodiphtheriae* in 30 percent, *Streptococcus non-hemolyticus* (other than *viridans*) in 28 percent, *Micrococcus catarrhalis* in 26 percent, and *Pneumococcus*, *Streptococcus hemolyticus* and *Bacillus Friedländer*, each in 10 percent.

6.—Removal of the focus of infection in the upper respiratory tract is essential to recovery.

[Continued on page 28]

| Case | Date | Examiner | Part Cultured | Culture Medium | Strep. hemolyt. | Strep. viridans | Streptococcus non-hemolyt. | Staph. pyogen. albus | Staph. pyogen. aureus | Staph. (unclassified) | Mitrococcus catarrhalis | Mitrococcus | Mitrococcus tetragenus | Pneumococcus | Pneumo-Strep. | Gram-neg. coccobacillus | Gram-neg. bacillus | Bacillus coli. | Bacillus diptheriae | Bacil. pseudo-diph | Saccharomyces | Bacil. Friedlander | Bacillus fusiformis | Bacillus influenzae | Lepidoptrix | Diphloccus | Contamination |
|------|---------------------|----------|---|----------------------------------|-----------------|-----------------|----------------------------|----------------------|-----------------------|-----------------------|-------------------------|-------------|------------------------|--------------|---------------|-------------------------|--------------------|----------------|---------------------|--------------------|---------------|--------------------|---------------------|---------------------|-------------|------------|---------------|
| 48 | 1-2 '22 10-7 '22 | H | Nares, Rhino-pharynx, Tonsils. Nares. Both Tonsils. Rhino-pharynx. | B. L. L. B. L. B. L. B. | 000000 | 000000 | 000000 | 0+00+0 | 0000+0 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 |
| 49 | 9-23 '23 | R | Right Tonsil. Left Tonsil. Both Nares. Rhino-pharynx. | B. L. L. B. L. B. L. B. | 000000 | 000000 | 000000 | 00+0+0+0 | 0000+0+0 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 |
| 50 | 7-20 '23 | R | Right Tonsillar Space. Left Tonsillar Space. Rhino-pharynx. | L. B. L. B. L. B. | 000000 | 000000 | 000000 | 00+0+0+0 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 | 000000 |

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| <i>Diplococcus crassus</i> | 1 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| Gram-negative coccobacillus..... | 2 | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 1 |
| Gram-negative bacillus..... | 3 | 6 | 0 | 0 | 0 | 0 | 3 | 6 | 0 |
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| <i>Bacillus fusiformis</i> | 3 | 6 | 1 | 2 | 0 | 0 | 2 | 4 | 0 |
| <i>Leptothrix</i> | 4 | 8 | 0 | 0 | 0 | 0 | 4 | 8 | 0 |
| <i>Saccharomyces</i> | 2 | 4 | 0 | 0 | 0 | 0 | 2 | 4 | 0 |

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6.—Removal of the focus of infection in the upper respiratory tract is essential to recovery.

[Continued on page 28]

[illegible]

BA = Blood agar.

coagulable blood.

YIM-09-01

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7.—Until the patient's bactericidal power has been raised against the organisms pathogenic to him, by means of a proper vaccine, they will probably remain active in the upper respiratory tract, in spite of surgical or other general and local treatment.

8.—Vaccine treatment will not produce a cure in the presence of diseased tonsils, which should be excised after the bactericidal power has been raised, but not before.

9.—A proper vaccine for these cases should contain all the organisms shown by the whole-blood test to be pathogenic to the patient. In making the test cultures, smears should be taken from all parts of the upper respiratory tract.

10.—The vaccine should be carefully administered, so that each dose is followed by a moderate local reaction.

1833 Pine Street.

Ionic Medication and Ionic Surgery

By G. BETTON MASSEY, M.D., Philadelphia

THE subject of ionic medication and surgery should not be considered difficult or one to be relegated to specialists alone, for, its intelligent comprehension would add a weapon of much value to the clinical armament of any office practitioner. To master it, merely requires a review of some of his physics by the younger practitioner who was educated in an institution that insists on a proper grounding in physics for its medical matriculates. That many older practitioners, even those who are now leaders in the profession, sadly lack this training, has been made evident to the writer by their open confession of failure to comprehend the standard physical and chemical terms used in papers on the subject read before local and general societies.

In a general sense, ionic medication is practiced by the physician every time he prescribes a drug, for oral or hypodermic administration, that contains a binary chemical compound; that is: a drug molecule made up of an acid ion and a base ion. For, it is well established that one ion or the other usually contains the whole of the active remedy—for example, the quinine cation in quinine sulphate or the arsenious anion in potassium arsenite—and that the molecules quinine sulphate and potassium arsenite, together with the molecules of most other drugs, are dissociated by the body fluids and really exert their remedial effects as ions. The physician prescribes ions in reality, therefore, and the usefulness of many drugs is dependent on the readiness of his combinations to give up their ions to the body ions in the tissues he wishes to affect.

Ionic surgery, likewise, is practiced in a sense every time an antiseptic is applied to a wound; for, the antiseptic quality of a chemical is due to an ion that precipitates and kills protein instead of being dissolved in it.

But the particular aspects of these subjects

to be presented later in this paper are, the administration of ions soluble in protein by diffusing them into the body by an electric current, under the name of *ionic medication*, and of ions similarly diffused that precipitate protein, under the name of *ionic surgery*.

Ions in Biochemistry

To state clearly what an ion is, it should first be said that it is far removed from the electron—that ultimate corpuscle of electricity which forms the framework of the atom. Space forbids more than allusion to the demonstrated fact that each atom is a little universe of space containing a definite number of electrons, the number being peculiar to each element, all circling around a central nucleus, like the solar system. An ion is such an atom or group of atoms, *plus either a positive or a negative charge of electricity*. Oppositely charged ions ever tend to unite by the most powerful force in nature, forming molecules of the substances familiar to our senses.

Take a piece of granite, for instance. Here the ions had an opportunity to become dissociated from preformed minerals in the presence of other ions with stronger charges, when the crust of the earth became molten in the earliest Plutonic metamorphoses, and to re-associate into new mineral molecules that, on cooling, have remained the same since that distant date. This tremendous force of ionic cohesion thus holds the earth's framework in shape between certain definite temperatures.

Yet, in spite of this all-powerful urge of oppositely charged ions in a union stabilized by absence of a certain degree of heat and of all vestiges of water, the very strength of this force causes a divorce of the ions of a molecule and their remarriage to others more strongly charged when opportunities offer. These opportunities are *fusion* and *solution*, both of which facilitate these changes. The

granite was not the original form of the molecules of which it is composed, for, some of them existed in rocks deposited previously by sedimentation. But, fusion by intense heat permitted a rescrumble and the formation of new molecules which were fixed in type by cooling at that early point in world history, and will so remain until again fused, save for a minute solvent action of water on its outer surfaces.

Without further allusion to heat as an opportunity for the dissociation of ions and their recombinations in the presence of other ions with greater charges and, therefore, superior attractions, we turn to the similar effect of water.

It is well known that, if we wish to keep most substances from change and deterioration (ionic dissociations and recombinations into something different, growth, death and decomposition), it is necessary to keep them dry. In the absence of water, as in the desert tombs of the Pharaohs, ionic change is arrested, and, so long as moisture remains absent, the molecules of even the least strongly fixed ions, such as those of protein (which are ever ready to give up ions to those possessing superior charges), may partake of the molecular fixity of granite. The addition of a trace of this solvent to the animal, vegetable and many of the inorganic mineral objects thus preserved for thousands of years, permits immediate resumption of the ionic changes arrested by drying when the tombs were sealed.

The reason for this is, that rain and tap water itself, exposed to light and the ions of its dissolved impurities, contain dissociated molecules, the ions of which form the starting point in the dissociation of other substances with which they come into contact.

The sodium chloride in a pan of dry table salt becomes a very different thing when water is added, particularly if the water is sufficient to make the solution a weak one, and thus more closely to surround each molecule of the salt. Partial dissociation of the salt occurs at once and, instead of a simple solution of sodium chloride, we have a solution of sodium chloride plus many free ions of chlorin and of sodium, each with its electric charge. The solution is alive with ionic power. This explains the rusting effects of sea water. The ocean is a great reservoir of ionic energy in its dissociated chlorin, bromin and other cations.

Within the body fluids, their constituent molecules are in even more continual disso-

ciations and recombinations than in inorganic life. Life is made up of an infinite number of such ionic interchanges, both in growth, nutrition, excretion and performance of function, none of which can occur without them.

Medicines containing binary molecules, as stated, act largely, if not entirely, as dissociated ions when dissolved in the body fluids, each ion having its own particular effect by reason of the vital substance within the body of opposite charge with which it unites. Potassium bromide dissociates into a bromin anion and a potassium cation. We are not specially interested in the potassium ion, though doubtless it has an appreciable effect when cumulative, but are interested in the fact that the bromin ion seeks its affinity within the protein of the central nervous system, and that it is soluble in this protein with a special effect and does not kill the protein by precipitating it. Incidentally, it is important to know that strontium bromide should be more sedative than potassium bromide, weight for weight; for strontium is bivalent, holding two ions of bromin while potassium holds but one.

It is important in practical electrical ionization to realize that ions may be either simple or complex. The sodium chloride molecule is composed of two simple ions: chlorin and sodium. A cocaine hydrochlorate molecule, on the other hand, is composed of two complex ions: the cocaine ion, made up of a number of atoms of carbon, and so forth, that we will not pause to remember, and the hydrochloric ion, made up of hydrogen and chlorin. Molecules composed of complex ions are not resolved into their ultimate constituents when acted upon by an electric current; the cocaine is driven in from the anode as cocaine, with all its special activities, and not as carbon and other atoms.

Redistribution of Ions of the Body Fluids by an Electric Current

Within its outer envelope, the horny layers of the cuticle, the human body is a vast laboratory of chemical (or ionic) reactions between substances more or less dissolved or suspended in water. What happens when a direct, constant or galvanic current (no others are effective) is sent through it from metal electrodes resting on the surface, with the minute air layers between metal and true skin blotted out by water-and-ion containing pads, thus rendering the cuticle a conductor? *Such a current is conducted through the body only by setting these ions in motion.* Pure water will not conduct electricity and the real solids conduct but slightly, the ions in solution in the

body fluids carrying it in the same way that bricks may be delivered at the end of a line of men by being passed from man to man.

It has been said above that these body ions, like all ions, have either a positive or a negative charge. Under the influence of the direct current those ions with a *positive* charge are driven towards the cathode or negative pole electrode, and those with a *negative* charge towards the anode or positive pole. Somewhat unfortunately for us physicians, ions have been named for the poles they seek or towards which they are driven, and not from the charge they carry. Thus, beneath the anode, or positive pole of the direct current, the cations in the body fluids, the soda, potash, lime, iron and hydrogen ions are driven towards the place on the body surface where the cathode, or negative electrode rests. Beneath the cathode, the oxygen, chlorine, acids, iodine, etc., are driven towards the anode. The passage of both, cations and anions through the body is by a series of dissociations and reassociations, and these have been described as a half revolution of each molecule towards one pole followed by a similar half revolution back, thus receiving and sending ions in both directions, exactly as if the row of men passing bricks, mentioned above, were simultaneously passing red bricks to the right end of the line and blue bricks to the left end. A molecule may remain stationary, but each set of ions proceeds towards its point of attraction by repeated unions and releases, producing a double current of ions, that of cations towards the cathode and that of anions towards the anode.

This, then, is the first phase of the results of an application of the galvanic current to the body: the displacing of the base ions from the part of the body beneath the anode and the displacing of the acid ions from that part under the cathode, in both cases the displacement being inwards. It has only been since the revival of interest in the galvanic current among electrotherapeutists that this physical explanation of some of the effects of a simple galvanic application has been understood as a cause for the clinical effects long known to follow these applications.

Consider the clinical possibilities that follow these facts when clearly apprehended, namely: That the earthy, base ions enumerated in part above may be driven deeper into the body by the anode from concretions, topi, vascular stases, etc., that are in the line of current flow; or that, by the same action, these same base ions can be withdrawn towards or into the pad

beneath the cathode.

When we consider the actions of the same current on the acid ions, it is seen that these are attracted to the neighborhood of the anode and driven away from the cathode.

Diffusion of Medicinal Ions Into the Body by an Electric Current

When we place a weak solution of molecules in the wet pads beneath the electrodes, or in a water bath in the case of an extremity, the ions in this solution are driven through the skin or mucous membrane by the current into the body in the path of the displaced, body ions, taking their places as they are driven deeper, the anions being driven from the cathode and the cations from the anode, the ion partners in each case being driven backwards into the wet pads and accumulating next to the metal plates.

To know under which pole to place the molecular solution for the administration of a given ion, one must consider the chemical composition of the particular molecule.

The *lithium ion*, for instance, is driven in from its salt by the anode, for lithium is the base ion of the molecule.

The *salicylic ion* is driven in by the cathode, for it is the acid ion in a solution of salicylate of sodium.

The *iodine ion* likewise is driven in by the cathode, for the halogen ions are acid radicles in unions with alkaline bases. Pure iodine, from a few drops of the tincture in water, is also diffused by the cathode.

The *magnesium ion* is driven in by the anode from a solution of magnesium sulphate.

The *chlorine ion* is driven in by the cathode from a solution of sodium chloride.

When a foreign ion is thus diffused into the tissues, it does not need to reach the opposite electrode on the other side of the body to give up its charge and be reduced to its special activity. It becomes repeatedly associated with opposite ions encountered in the tissues or body fluids, with a local action peculiar to the molecule thus formed, where we want it to be. The salicylic ion, for instance, may thus be made to unite with the bases of nodes, tissue exudates, etc., more directly than by mouth, and make them soluble or otherwise innocuous. In doing so, the salicylic ion doubtless unites with the ions of many normal proteins encountered also, with detrimental local effects of at least a temporary character; but how much better to subject the site of the disease only to these effects of drug concentration, instead of the whole body, and particularly the normal digestive organs? ▲

This fact of confining a medicinal ion in effective concentration to a diseased area, such as a joint, is one of the principal arguments in favor of ionization as compared with oral administration of the same ion. Moreover, even though but a moderate current be used for a limited time, thus restricting the amount of the drug so diffused into the body, Leduc (1) has pointed out that a larger dose may be more readily embedded in a limb by the current than by oral administration, as the latter necessarily would have to saturate the whole body to an equal degree with the local part.

A second advantage in the diffusion of a medicinal ion into the body by the galvanic current, as compared with oral or hypodermic administration, is, that the current causes immediate intracellular diffusion of a portion of the medicine, while the oral and mechanical administration is into the extracellular fluids alone, to be only in part and but slowly diffused into cellular tissue. This difference has been measured in the case of cocaine, showing a more prolonged effect after diffusion by the current.

Leduc (1. c.) and Sir Lewis Jones (2) also emphasize the overwhelming advantages of ionic medication in skin affections as compared with local applications of watery solutions and inunctions. The ions in the solutions act on the surface only, without the current, while in the case of ointments the grease or petrolatum inhibit ionic action. The field for ionic medication in dermatology is therefore extremely important.

The practical value of this method as a means of flooding the deeper structures of a part of the body with remedial ions has been challenged in England, of late, by Major Turrell, a well known army medical officer, who thinks that much of the good effects of the prescribed drug ions is due to the forced interchanges in the body ions themselves, produced by the current, as the blood circulation of the part carries much of the diffused remedy into the general circulation. There is some truth in this assertion, unquestionably, so far as a high concentration is concerned, but it is possible that the statement is a hyper-criticism in a country where, for ten or fifteen years, ionic medication has been practised by a large body of physicians and to an extent unapproached in America.

When these foreign ions and body ions

actually reach the electrode pad on the other side of the body, as those body ions nearest the pads are sure to do, even with a moderate current, they give up their charges to the metal conductors themselves, having no opposite ions to unite with, *and become caustic or display other characteristics according to their nature as nascent atoms of the particular substances.* Thus, destructive electrolysis occurs at the actual poles, including erosion of an attackable metal at the anode and diffusion inwards of its ions—a valuable surgical procedure when desired, but an incidental disadvantage in medicinal ionization. This necessitates the use of an unattackable metal as the anode plate when we wish to diffuse cations; which means, in practice, aluminum, since the cost of platinum and gold rules them out, for it is found that aluminum resists acid ions but not the alkaline ions. Aluminum is, therefore, undesirable as a cathode plate, though only clay is formed by its dissociation. But, on account of the value of a pliant metal backing over curved surfaces, we often use tin alloy metal or even thick tinfoil as the anode metal when diffusing through curved body surfaces, if the pads be thick enough to absorb the tin and lead ions that it yields on erosion; but such pads should not be used a second time.

Undesirable ions appear at the surface of both plates, of course, the released partners of both, body ions and foreign ions that have been driven in; but the cations that appear at the cathode as either active or dispersing pad do not attack base metals, save possibly aluminum, being themselves base ions. Any metal except aluminum may therefore be used as the backing of the cathodic electrode.

Differences Between Medicinal Ions and Sterilizing, or Surgical, Ions

All the ions mentioned above, and many others, are soluble in protein and, therefore, specially suitable for medicinal ionization. The ions of metallic bases, on the contrary, are not soluble in protein but precipitate it in uniting with its oxygen, chlorin, phosphoric acid, etc., resulting in death of the dissociated part of the protein, or a caustic effect. The resulting compounds cannot be absorbed or are absorbed with difficulty. As a tissue irritant, some of them stimulate phagocytic activity beyond the point where concentration is lethal, notably the zinc ion, resulting in the formation of a line of demarcation and the extrusion of a slough, followed by the quick healing of the wound in tissue otherwise slow to heal. The ferric ion is less caustic and irritant, producing a stain only when deposited

(1) *Electric Ions and Their Use in Medicine*, by Prof. Stephane Leduc, translated by R. W. MacKenna, Rehman, London, 1908.

(2) *"Ionic Medication,"* by Sir H. Lewis Jones, P. Blackiston Son & Co., Phila., 1915.

in the tissues. The sterilizing ions most employed in surgery are as follows, both being diffused from the anode:

Sterilizing and Destructive Surgical Ions

The Zinc Ion.—Diffused from metallic zinc needle anodes. This ion has been largely employed by the writer in the destruction of epitheliomas and still-localized cancerous growths, by major diffusions under local or general anesthesia. The method has been improved, of late, by adding a thermic destructive action by confining both poles to the growth and increasing the current strength, with the result that a large growth, such as an apparently inoperable carcinoma of the breast and axilla, may be effectually coagulated in thirty-five or forty minutes. Complete destruction at one application is an imperative rule (3). The zinc ion may also be diffused from weak solutions of zinc sulphate in the treatment of broad, indolent ulcers, a sheet of zinc being placed in the solution, with or without absorbent cotton to prevent contact of the metal with the ulcer.

The Copper Ion.—Diffused from metallic copper anodes and from weak solutions of copper sulphate with a copper plate as anode. A copper wire probe in a sinus is an excellent source of the copper ion, and this mode of application has been largely employed in the treatment of sinuses and fistulas, though the writer prefers the combined zinc and mercury ions from a zinc probe amalgamated with mercury. (Such a probe becomes very brittle after amalgamation and should not be used a second time in deep cavities, for fear of breakage).

Ions That Sterilize With a Minimum of Normal-Tissue Destruction

Certain ions, while precipitating protein when concentrated, produce soluble products that are readily absorbed and lethal to the lower forms of germ life. These ions are very valuable in sterilizing skin affections and the deep recesses and crypts of tuberculous abscesses.

The Mercury Ion.—Diffused in a pure state from an amalgamated gold anode, or mixed with zinc or copper ions by amalgamation of the respective metals. The pure mercury ion is a valuable remedy for trachoma when applied from a fine pointed gold needle; also in the treatment of tuberculous sinuses where tissue destruction is not desired.

(3) For further details of this method in the treatment of cancer, see a recent work by the writer: "Practical Electrotherapeutics and Diathermy," by G. Betton Massey, the MacMillan Company, New York, 1923.

The Iodin Ion.—Diffused from a weak solution of potassium iodide by the cathode. This is a valuable method of diffusing iodine into the thyroid gland. This ion driven through the infected skin possibly would abort an attack of erysipelas.

The Magnesium Ion.—Diffused from a weak magnesium sulphate solution by the anode. This ion has recently been found to be of great value in the treatment of acute and chronic dermatitis of infective origin, eczemas, etc., two or three treatments often resulting in a cure. It is a specific in the infective warts often found on the hands of children, the solution being applied in a thick pad to the whole surface of the hand. A single treatment, with ten or fifteen milliamperes for fifteen minutes, may relieve the tenderness by apparent devitalization of the causative germs, and result in final disappearance of the warts by gradual exfoliation. It should be tried in erysipelas.

Apparatus Required in Ionic Medication

Medicinal ionization and minor ionic surgery may be done with the ordinary galvanic apparatus, the polarity of the terminal binding posts being properly tested. With the 110-volt direct current supply, the best controlling apparatus is the writer's galvanic table, made by the Victor Electric Corporation of Chicago, though most manufacturers make excellent apparatus for these purposes, which permit a control of both, voltage and milliamperage, and the gradual turning on and off of the current without unpleasant irregularities.

When the physician has an alternating current supply, this must be turned into the direct current by a motor generator.

In the absence of a supply from street mains, or when it is necessary to employ ionization at the bedside, a sufficient current supply may be very inexpensively obtained by using a Radio B battery, increasing the current from the lowest as gradually as possible by the use of a split cord or wire—a Y shaped conductor, the stem of which is attached to one binding post and one terminal to the last cell included, this terminal being left attached until the second terminal is attached to the cell or cells in advance, thus keeping the circuit from breaks and shocks. It is, of course, necessary to insert a meter between one pole of this radio battery and the patient, to know the dosage employed, and better work can be done by inserting a graphite controller in circuit also and using the whole voltage of the dry-cell battery, which may be of 22½ volts or 45 volts.

I have already alluded to the advantage of a

weak solution of the molecules containing the medicament, in that the solvent then more nearly surrounds the molecules and more readily dissociates them. But the amount of the medicament diffused is purely a product of the two factors: current strength and current duration. A stronger solution than about 2 percent cannot increase the amount diffused without increase of one or the other of these two factors.

When the remedy to be ionized is inexpensive, it is unnecessary to make accurate calculations of the percentage of the solution.

It is important to keep the skin in good con-

dition during ionization applications. If there is a red spot or pimple, indicating breaks in the horny cuticle, they should be covered with petrolatum or collodion.

All parts of the electrode plates should be equidistant from the skin, with ample padding containing the solution between; and it is important to keep the pads saturated with the molecular solution. They may be kept in place by bandages or sand bags.

The duration of a medicinal ionization or minor surgical ionization should never be less than fifteen minutes nor rarely longer than an hour.

The Diseases of the Eye In Relation to General Systemic Lesions

By BEULAH CUSHMAN, B.S., M.D., Chicago

THE relation of the ophthalmologist and physician has often been discussed and, in these articles, we want to reiterate many of the things that have been said before and emphasize again some of the important phases of the welfare of the eyes in the hands of the physician. Many of the communities cannot keep a specialist busy enough and the physician can take care of a large part of the eye work if he will equip himself. He should review the anatomy and take up the study systematically.

In this article and the ones to follow, the more common diseases of the eye will be discussed as to diagnosis and treatment by the family physician.

The history of the eye complaint is as important as in any general pathological condition, and the nature as well as the seriousness of the complaint can be made out largely by the history.

The diagnosis in eye cases can frequently be made from the history, and it is important to have a short but definite outline to follow.

What to Observe:

Dr. E. V. L. Brown, in his course to the students at the University of Illinois, emphasizes the importance of the history in the eye conditions under four heads: *Pain*, as the first head, is the symptom that usually brings the patient to the doctor, and this should be gone into very carefully. In eye conditions, pain, most frequently, is a headache due to eye strain and usually comes on after near or close work. It may be located over the eyes, through the forehead, a drawing sensation, in

the back of the head and radiating down the back of the neck. Sometimes, it is associated with nausea, especially in early presbyopes with an accommodative insufficiency.

Pain in conjunctivitis is a foreign-body sensation due to the shreds of mucus or pus which collect in the eye, as well as the swelling of the conjunctiva.

Pain in iritis is sharp and shooting, worse at night, and the patient is unable to sleep.

Pain in acute glaucoma is excruciating, usually located in the head, ears and teeth, and often must be differentiated from a trifacial neuralgia. The development of cataracts, and degenerative conditions of the choroid and retina is painless. With involvement of the cornea, there is photophobia which varies according to the severity of the trouble, unless it is associated with an insensitive cornea.

Second, if there has been any *discharge*, its character, whether mucopus or purulent, should be noted. This means that the conjunctiva, lacrimal sac or both are involved. If the lids are stuck together in the morning, there must be some discharge and therefore some conjunctivitis.

Profuse tearing may be due to an obstruction of the tear ducts or to any irritation of the trigeminus, such as emotions, cold winds, smoke, foreign bodies or inflammations of the eye or adnexa, as rhinitis. The inflammations of the eye which cause tearing may involve any part of the anterior half of the eye; inflammations of the posterior half usually do not cause tearing, although in some cases the

retina may be sensitive to bright light and reflexly cause tearing.

Third, the *redness of the eyes*, its duration and location may aid a great deal in the diagnosis. Eyestrain may cause a redness after near work or car riding. In conjunctivitis, the eye may be only flushed away from the circumcorneal region, to a very intense engorgement of all the conjunctival vessels. The intense injection is usually associated with edema and swelling of the conjunctiva.

In iritis, the redness is circumcorneal and varies from a violet color to a deep redness and, with a very severe infection, the redness extends to the equator of the eye and the distended scleral vessels can be seen through the conjunctiva. In glaucoma and keratitis, the redness is in the same location and the differential diagnoses must be made on other findings.

Fourth, the *history of the vision* should be gone into very carefully, to determine whether there has been any noticeable change in the vision in either eye and, if diminished, whether it was sudden or gradual. The vision of each eye should always be taken without any previous correction at the first visit, to protect the doctor. The patient may be amblyopic in one eye and never realize it; then, after the treatment, he may close the good eye for some reason and find that he cannot see and consequently blame the treatment and the doctor. This has happened many times with the use of mydriatics, and the patients will always insist that it was the medicine which caused the blindness. They are encouraged in this belief by the opticians and drugless healers.

In presbyopic conditions, the vision for distance remains good and the patient states that a needle is difficult to thread or the print seems too fine.

In inflammations, such as iritis, and keratitis, the vision decreases as the redness and pain increase. The vision in iritis without treatment may be reduced to shadows or light perception, due to the adhesions of the iris to the lens and the exudate in the pupillary area.

The vision decreases gradually in chronic glaucoma, but a halo about the lights will be noticed for a long time before the decreased vision is complained of. In mild congestive attacks of glaucoma, the patient may give the history of attacks of blurred vision with headaches, with slight redness of eyes, which clears up in a few days, while in acute glaucoma there is a very marked reduction in vision

with the acute pain and redness.

Gradual loss of vision with no pain or redness of the eyes in the young person is usually due to some degenerative condition in the posterior half of the eye, as choroiditis, retinitis, or optic atrophy, while in the older patients cataracts are frequently the cause and may be associated with some other lesions of the posterior half of the eye.

The field of vision is very important in any eye which shows a decreased vision. The glaucomatous eye shows a marked contraction beginning with the temporal field.

The involvement of the centers or tracts limits the fields accordingly.

In more extensive examinations the blind spot, which corresponds to the entrance of the optic nerve, and scotomata, island-like gaps in the visual field, should be outlined and the findings aid greatly in a diagnosis.

To Establish the Diagnosis

The diagnosis calls for the differential diagnosis and the reasons for naming the condition. The discharge from the eyes should be smeared and cultured, in order to determine the type of the conjunctivitis. Circumcorneal injection associated with a smaller sluggish pupil and pain which is worse at night should be treated as an iritis, whereas circumcorneal injection with a larger sluggish pupil, with an aching or neuralgic-like pain, with increased tactile tension and decreased vision is to be treated as glaucoma; and in keratitis the circumcorneal injection is associated with equal pupils, clear irides and infiltration of the cornea. Painless loss of vision with no redness or discharge and which has not been improved with glasses is usually due to some pathology in the lens or posterior half of the eyes.

The use of the ophthalmoscope is absolutely necessary before the physician can be sure of his diagnosis and, unless he can use it satisfactorily, in conditions in which there may be a question, such as glaucoma or iritis, optic neuritis or choked disc, keratitis or conjunctivitis, his responsibility should be to refer the case immediately.

All the technical surgical work on eyes should be done by the specialist and will not be taken up in these papers.

The diagnosis, abortive and emergency care of the more common eye conditions will be taken up in subsequent articles. The eye complications in scarlet fever, diphtheria and measles will be taken up in the next paper.

X-Ray as a Corrective Agent in Impaired Hearing

By J. J. RICHARDSON, M.D., F.A.C.S., Washington, D. C.

IN a patient who presents himself suffering from deafness of recent origin, and when the otologic examination shows that the tympanic membrane is normal and the tympanopharyngeal passage is pervious, it is usual and correct to believe that the case is one of disease of the auditory nerve. In such cases, the prognosis is generally considered unfavorable, although very much depends upon the cause, the intensity, and the duration of the disease.

In a rather large group of cases, ordinarily falling in this category and coming to my attention during the past four or five years, it has been possible for me to afford much relief by introducing into the treatment two specialized applications of therapeutic x-ray doses, which I shall describe.

The first specialized use of the x-ray involves the administration of a sclerolytic x-ray dose. This has for its basis the anatomical reduction of lymphadenoid tissue that accumulates in the nasopharyngeal space, particularly around the faucial opening of the tympanopharyngeal passage, and leads to a mistake in interpreting auditory-nerve disease as the origin of the deafness. The provocative factors that bring on this deposit of lymphadenoid structure have so far escaped detection; but they appear to be identified with certain types of nasopharyngeal infections, more especially the vague influenza attacks that appear epidemically and involve particularly the paranasal sinuses and with equal frequency the structures of the middle ear. It is not necessary that the accumulation of the lymphadenoid tissue shall be quantitatively great in order to impair the function of the hearing organs. Indeed, an almost inappreciable amount of lymphadenoid growth located so as to interfere with the return blood supply of the middle ear will give rise to a deficiency of ventilation and to a train of congestion phenomena that greatly affect the hearing. Any blood stasis in the middle ear contributes to a derangement of the ventilation by impairing the capillary gas exchange that takes place in these chambers; and the phenomena of congestion make for definite functional impairments that lessen the proper physiologic operation of the parts.

Because of the difficulty definitely to locate the minor lymphadenoid growths causative for these severe changes, any mechanical attempt, such as the use of a finger or of a curette,

to remove these accumulations usually fails in its effect; and, quite often, by reason of the trauma and subsequent inflammatory reactions that ensue, the entire condition is made worse rather than improved.

The Sclerolytic X-Ray Dose

When this pathology is present, which is the case more often than is generally assumed, the exhibition of a sufficient intensity and quality of x-ray relieves the symptoms by extinguishing the lymphadenoid structure. For this purpose, I have devised the use of the sclerolytic x-ray dose having for its factors the following values:

| | |
|--------------------------|--------------|
| Milliamperes | 5 |
| Kilovolts | 80 |
| Tube skin distance | 15 inches |
| Filter, aluminum | 1 millimeter |
| Time | 9 minutes |

In applying this dose, the patient may rest upon the x-ray table, ventrally, the head inclined to the right. Adequate leaded-leather protection is placed over the patient so as to cover all but the head. Over the head, a square of lead foil is placed which carries an ovoid opening about $\frac{1}{2}$ by $\frac{3}{4}$ inches in diameters. The opening is placed over the external meatus, which is thus exposed. Following the exposure just mentioned, the head is turned to the left and the other ear is similarly treated.

No immediate improvement in the hearing sensibility is registered after this treatment; but, as the hyperplastic tissues reduce, the hearing is increased. Exposures are repeated not oftener than every two weeks, and may be given for 6 or 8 sittings.

As quickly as the thickened tissues are resolved by the sclerolytic x-ray dose, the patient notices a greater registration of spoken voices; and this subjective improvement may be confirmed by an increased response to the various acoumeter and tuning-fork measures.

It is not unlikely that similar lymphadenoid changes or connective tissue changes may occur elsewhere than simply in the nasopharyngeal passage; for, it has been my experience that, in many cases of impaired hearing, without especial regard for the underlying pathology, the use of the sclerolytic x-ray dose results in an improvement as registered by the patient's observation and by a carefully controlled test of the spoken and whispered voice perception.

Whatever be the pathology of impaired

hearing, and when this has existed for a reasonable time, the threshold of the hearing sensorium on the affected side increases even beyond the limit which it would ordinarily show for the amount of pathology present. I assume that this is due principally to a physiologic shift of the sense to the unaffected side. This is an expression of physiological compensation and results in raising the acuity of the hearing sensorium on the unaffected side with a corresponding dulling, even below the limits set by pathology, on the affected side.

Improving Dulled Sensibility by the Neural Stimulating X-Ray Dose

It is obvious that, in all cases of impaired hearing, excepting those involving the absolute loss of the auditory-nerve function, the dulled sensibility can be increased and in that measure the hearing restored. Any method that safely induces the required degree of neural stimulation is effective in producing this change; and I have introduced for this purpose the use of a neural stimulating x-ray dose. As the result of much trial and error, I find the following x-ray values to be most efficient for this effect:

| | |
|---|----|
| Stabilized milliamperes | 8 |
| Kilovolts | 50 |
| Tube skin distance, inches..... | 24 |
| Filter, equivalent of 1 millimeter aluminum | |
| Time, seconds | 12 |

This is distributed over the entire head by directing the energy through four portals of entry. Only for the purpose of convenience, the central target may be taken as the sella turcica; and, with this as the guiding landmark, the portals of entry become

(a) on the left, behind the mastoid, the central ray passing in the direction of a line joining the mastoid tip and the sella turcica;

(b) from above, the central ray passing into the skull in the direction of a line joining the anterior fontanel and the sella turcica;

(c) on the right, behind the mastoid, as for the left side (see a);

(d) from behind, the central ray passing along a line joining the occipital protuberance with the sella turcica.

Through some mechanism that must yet be discovered, this stimulative dose accomplishes two important changes. First, and nearly always, it quickly relieves the "tinnitus aurium". This is, of course, highly desirable and most pleasing to the patient. Then, the hearing sensorium threshold is lowered, usually after a few exposures, so that the patient noticeably registers and understands more conversation.

X-Ray Treatment Is Adjuvant

Following my experience in over 600 cases, my treatment of impaired hearing has assumed three steps:—

- 1.—Usual otologic procedures;
- 2.—Sclerolytic x-ray dose;
- 3.—Stimulative x-ray dose.

I still consider the x-ray applications as purely adjuvant to the otologic measures, and it is my opinion that the entire treatment more properly belongs to the ear, nose and throat specialist. On the basis of this rather vast experience, I may record the following observations:—

(a) I cannot discover that the original pathology plays any obviously determining role with respect to the efficiency of the treatment.

(b) Improvement, when it occurs, is either astonishingly immediate, or is for some time latent, becoming apparent only after several treatments.

(c) Improvement is at times followed by relapse, which has not in my experience ever reached the low level of the original deafness. The gain is apparently a progressive series of steps.

(d) Improvement is most usually manifested in an increased power to interpret the conversational voice; next for music in its various orchestral forms; lastly for metallic sounds, such as the ringing of church bells, telephone bells, and similar previously undetected sounds. Occasionally, a patient will show increased acuity for everything except the voice, a situation quickly recognized by the tuning fork and acoumeter tests.

(e) The most striking subjective betterment is the very general disappearance of tinnitus aurium. This is most pleasing to the patient, as it is the first symptom, and a most distressing one, which is dispelled. There are cases, however, in which the tinnitus is not materially decreased, and in an exceptionally few instances there are complaints of increased head noises.

(f) My present records show improvement, varying from slight degree to a complete cure, in not less than 60 percent of the cases treated, which must be regarded as a gratifying result.

(g) The treatment is entirely free from any harm to the patient.

It is highly probable that the x-ray may accomplish changes that have not yet been definitely recognized. This is made apparent by the fact that, notwithstanding the pristine character of the cause for the impaired hearing, such cases as I have heretofore treated by the usual otologic measures and that failed

to obtain appreciable improvement have, since the addition of the sclerolytic and neural stimulating x-ray doses, gone on to marked improvement and in several instances to astounding cures. I have in mind particularly the case of one of our Senators whose deafness precluded his hearing the call bell announcing a roll. Several years of usual otologic treatment failed to afford any significant improvement; but, upon introducing the sclerolytic and neural x-ray dose into the treatment regimen, the Senator improved to the point where he not only hears the bell announcing the call, but also can participate in the debates on the floor of the House.

I cannot be overemphatic in insisting that the treatment by the use of the x-rays is simply adjunct to the usually established otologic therapy; and, though I realize that, in certain

forms of pathology, the benefits derived by the use of the x-ray are not well understood, I must invite attention to the remarkably great good that the proper use of the x-ray affords as a supplemental agent in correcting to a greater extent than has been possible heretofore, the economically drastic condition of impaired hearing.

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1509 Sixteenth Street.

Treatment of Tonsillar and Pharyngeal Infections

By IRA O. DENMAN, M. D., F. A. C. S., Chicago, Ill.

I SUPPOSE that I am not alone but represent the experience of all laryngologists, as well as general practitioners, in a growing realization of the unsatisfactoriness and inadequacy of tonsillectomy as a remedy for a large proportion of the local and general ills for which it is undertaken. This does not imply any indictment of the operation itself; still less does it represent any unfriendly complex in my mind toward tonsil surgery, in which, as a matter of fact, I have myself done a great deal of painstaking and (if I may say so) successful work, having spent a good deal of time perfecting an original technic for tonsillectomy. I do not hesitate to say, however, that I have long been convinced (as, I doubt not, many others have) that tonsillectomy has to a large degree been weighed in the balance and found wanting, and that it is destined to be superseded in many cases by some superior method. I am persuaded that, within a short time, tonsillectomies will become as rare as operations on the nasal sinuses have now become.

Aside from mortalities incident to the operation which, it may be conceded, are not numerous enough to constitute of themselves an objection to tonsillectomy, there are not a few positive mischances that often attend the procedure, among which may be mentioned hemorrhage, lung abscess, empyema, phlebitis, endocarditis, middle-ear infection, etc., by which the last state of the patient is made

worse than the first. These things, which happen to the best of us, are of themselves enough to lead us at least to consider whether there may not be some more excellent way to deal with some of our cases.

It is not of these *positive* contingencies, however, that I am thinking so much as of those *negative* results which so frequently disappoint and discourage us. We are consulted in a case where there is manifest tonsillar infection and perhaps general toxemia. We do a tonsillectomy, and neither the throat nor the systemic condition clears up. An examination of the throat reveals that a large amount of red, nodular inflammation persists. In short, my experience, in common with that of practically all laryngologists, has thrust upon me the conviction that tonsillectomy is inadequate for the larger proportion of problems it is intended to solve, and we must find a more satisfactory solution—something which will either replace tonsillectomy or supplement it and round it out.

Inadequacy of Tonsillectomy

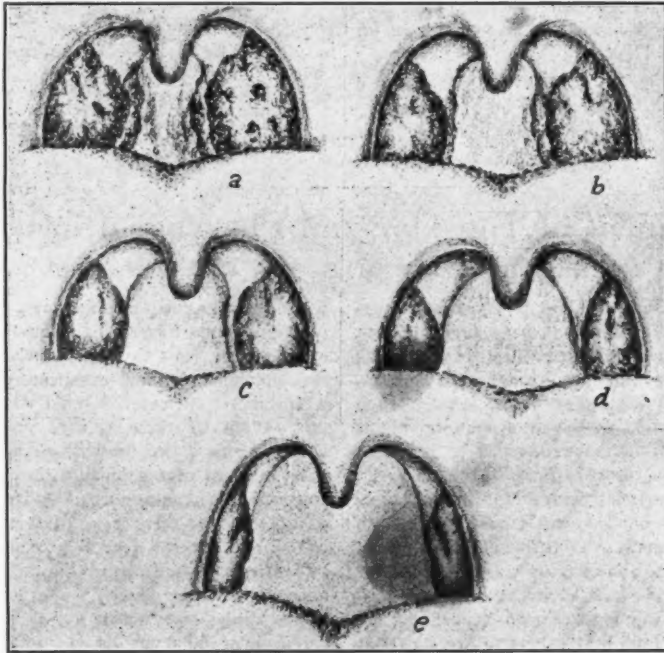
The more thorough investigations of the tonsil, its structure, physiology and pathology, which have been carried out in recent years, have shed a flood of light upon these unsatisfactory experiences and point the way to a more rational and effective therapy in this type of cases. It is to be borne in mind that the tonsil represents two entirely distinct types of tissue: (1) a relatively elementary, low-grade,

lymphoid tissue, constituting the true glandular portion, and (2) a much more highly organized fibrous tissue, constituting the trabeculae and capsule, i. e., the supporting structures, which surround and give form to the organ.

Of these two types of tissue, the lymphoid alone furnishes incubation and soil for septic infection. The fibrous tissue is not susceptible to ordinary infection, as is demonstrated by the fact that, in normal individuals, in whom,

gual structure, which cannot possibly be reached by surgery.

As long ago as 1920, Dr. Thomas R. French, in a paper read before the American Laryngological Association, pointed out the inadequacy of tonsillectomy in many cases of so-called tonsillar infection, because the lingual branches of the lymphoid tissue retained pus and bacteria, and "we have not as yet been able to decide upon a safe and efficient method of disposing of these lingual branches," thus



Figure—1 to 5. (a) Tonsils before X-ray treatment; large, ragged crypts contain pus. Large mass of lymphoid tissue behind posterior pillars. (b) Two weeks after treatment; tonsils reduced; surface smooth and clean. Mass behind pillars reduced. (c) Four weeks after treatment; tonsils markedly reduced, pale and smooth; no exudate on deep pressure. (d) Eight weeks after treatment; small amount of exudate. (e) Six months after treatment; tonsils small, normal in appearance, no exudate on deep pressure. Lymphoid tissue behind pillars practically gone. Hemolytic streptococci disappeared from throat by second week after treatment.

by the time adult life is reached, the lymphoid tissue is absorbed and only the fibrous portion remains, as a small, firm nodule, tonsillar infection is practically unknown.

Moreover, our modern knowledge of the tonsil and its relationships and of the toxemias for which they are responsible, makes it necessary to revise our whole conception and nomenclature. We should not longer speak of "Tonsillar Infection" but of "Infection of the Upper Respiratory Tract," which involves a great deal of pharyngeal and lin-

putting his finger squarely on the problem, but offering no solution. Later, in a paper read before the same body, he pointed out the part played by the tongue itself in the pathology of what he then termed the "lymphoid apron," and still further showed the impossibility of removing surgically these intricate ramifications of lymphoid tissue. Still more recently, Dr. French has devised a special instrument and technic for dealing with this apron, the complexity and difficulty of which make it certain that it will never come into sufficiently

wide use to furnish an answer to the problem.

Effects of Ultraviolet Light

It was these considerations which led me to make a thorough and impartial trial of what could be done for such cases by means of ultraviolet light, in which, in the last few years, I had become personally interested. Within recent years, there has been a rapid and phenomenal access of knowledge on this subject, resulting in the development of more effective methods and more accurately controlled apparatus for its clinical application. Modern ingenuity has given us the mercury-vapor lamp, by which the ultraviolet rays are artificially generated in a vacuum quartz tube, practically all such rays being of the short-wave length, which are universally recognized as being the therapeutic rays. They can therefore be utilized in full therapeutic quantities without the production of heat. This apparatus is made, both in the form of the diffuse lamp, for general raying, and of the focussed lamp, for intensified raying through water-cooled condensing lenses.

The diffuse form of actinic rays, for general body radiation, has been available for several years. Only since 1913, has the focussing lamp been available through American manufacturers, enabling us to make application of the rays to the closed cavities of the body. Through the agency of this apparatus, it is possible to deliver to the affected areas or cavities a very powerful, concentrated stream of ultraviolet light. To convey an idea of its potency, it may be said that one minute's exposure of a sensitive skin, with this lens, will produce an artificial "sunburn" in all of its stages; yet, because of the water-cooled system, the lens itself remains cold throughout the exposure, the patient experiences no sensation of heat, and no real damage is done to the tissues.

My idea was that, by the strong bactericidal and metabolic action of the condensed rays upon the throat, combined with the general metabolic, stimulating effect of the diffuse rays, I could bring about a cure or at least an amelioration of the trouble. In some cases, I did a tonsillectomy and afterward applied the rays. The results were so gratifying and so convincing that I was encouraged to consider how I might further adapt the treatment to the relief of tonsillar and pharyngeal troubles.

The chief obstacle to be overcome was, the physical limitations of the rays themselves. These rays only penetrate to a depth of a few millimeters, so that it was manifestly impossible to sterilize a tonsil more than a slight

distance below its surface. In this dilemma, it occurred to me to combine the use of the ultraviolet light with that of the x-ray. With-erbee, of New York, and others had demonstrated beyond a doubt, and I myself had verified, that exposure to the x-ray caused absorption of the lymphoid tissue and a shrinkage of the entire tonsil. Ultraviolet light, as I had satisfied myself, sterilized the tonsil and throat to a depth of a few millimeters. By a combination of the action of the two, it seemed to me, one should be able to dispose of the entire tonsil.

My only hesitation lay in the possibility that there might be some physical or physiological antagonism between the x-rays and the ultraviolet rays. My doubts on this point were resolved by the publication of the work of Dr. C. M. Sampson, of the United States Public Health Service, undertaken for the purpose of determining this very question, which demonstrated that, so far from being antagonistic, the two types of rays were physiologic complements of each other and may be used in symbiosis.

Triad of Radiant Forces

Acting under this authority, I have put into practice what I have called my "triad" of radiant forces—condensed, watercooled ultraviolet rays for sterilization, diffuse ultraviolet rays to promote metabolic reaction against infection, and x-rays to absorb lymphoid tissues and to shrink the tonsils, both faucial and lingual. The results have really been better than I ventured to hope and, in many cases, almost dramatic.

The *modus operandi* of this combined radiant therapy is worth a word or two. The idea is entertained by some, and has been frequently expressed to me, that the shrinkage by means of the x-rays seals up the infectious material within the tonsil. Such an idea displays an utter lack of understanding of what takes place. What actually does take place is this: By means of the x-ray, the tonsil is caused to shrink by destroying the embryonic lymphoblast root cells to which the prolonged growth of the lymphoid tissue is due. As the follicles undergo shrinkage, the crypts inevitably become shallower and shallower, their apertures widening and being everted, until at last they are obliterated altogether and, instead of crypts, there remain only depressions in the tonsil.

As the shrinkage and everting process goes on, the judicious application of the focalized ultraviolet rays to the tonsil and fauces sterilizes the surface and promotes reconstructive

metabolism in the remaining tissues. These light waves are also absorbed into the blood stream, through the capillaries, bringing about the needed blood changes, as shown by blood tests. Eventually the tonsil becomes a hard, small, fibrous nodule, devoid of lymph tissue and cleaned of infection, and the whole faucial region is clean and healthy.

As a third, and most important, factor in the treatment, the exposure of the patient's chest and back to the diffuse ultraviolet light increases general metabolism, raises systemic resistance, and improves the general health.

Applicable When Surgery Fails

I am not a fanatic. I do not say that we have found the panacea for all the ills that tonsils and throat are heir to and which will enable us to throw away all our dissectors and our snares. But, after an extensive and rather exacting trial of this "triad" of radiation, I confidently offer it as a most satisfactory method of dealing with a large proportion of tonsil cases, giving much better results than are obtainable by surgery. I am convinced that it furnishes the solution which we have been seeking to the vexed problems in which surgery of the tonsil has disappointed and failed us; in those cases which surgery cannot reach. It offers a way of relief to those patients in whom, for various reasons, surgery is not practicable or who need but refuse an operation. And even in those cases of sheerly tonsillar pathology, where tonsillectomy might well be regarded as an adequate procedure, this method furnishes a non-surgical alternative which avoids all the risks of surgery and presents decided advantages over that method.

When the lymphoid tissue of the tonsil becomes diseased and constitutes a menace to health, surgery is able to remove this superfluous and threatening tissue only by a complete extirpation of the entire tonsil, which involves not only the removal of the undesirable lymphoid tissue, but with it the harmless and helpful fibrous tissue. Radiation, on the other hand, offers a more excellent way. It dissolves and sterilizes the lymphoid tissue, at the same time promoting metabolism and effectually and permanently cleaning up the areas which afford a harboring place for foci of infection, while it leaves the fibrous tissue intact as a protection against further invasion by bacteria, which can and do penetrate mucous membrane.

Advantages of the Method

Its advantages may be set forth, in orderly form, as a concluding summary of this brief article:

1.—None of the contraindications to tonsillectomy have any deterrent influence upon radiation. On the other hand, patients in whom surgery is contraindicated can be safely treated with radiation.

2.—The disagreeable and often-times serious after-results of tonsillectomy are entirely absent in radiation. This exemption includes the shock and depressant effects which always immediately follow surgical operation. Radiation improves the patient's general health and resistance from the first. It is one of the earliest noticeable effects of the treatment.

3.—Radiation reaches not only the tonsils themselves, which are but a portion of the infected tissue, but all of the adjacent and surrounding lymphoid tissues of the pharynx and lingual apron, cleaning up the entire seat of infection, and thus does actually solve the problem at issue, producing the systemic results for which the treatment is undertaken.

4.—Radiation removes only the infected lymphoid tissue, leaving the harmless and useful fibrous structures intact, and it cannot possibly produce any scar tissue or throat deformity.

A word of admonition in closing. It must not be supposed that the mode of treatment here advocated is a cut-and-dried, rule-of-thumb procedure, to be carried out by any slot-machine routine or according to a formula. It is a matter requiring thorough knowledge of the anatomy, physiology and pathology of the nose and throat, careful diagnosis, and nice judgement in each individual case. It is useless to expect radiation of the tonsils and pharynx to clean up a nasopharyngeal infection in a patient whose septum is badly deflected, with the ethmoid cells blocked and suppurating. These conditions must be attended to first as a preliminary to successful radiation. In like fashion, each case must be carefully surveyed and handled according to its individual requirements. Any less discriminating method will inevitably lead to failure and tend to bring discredit upon the whole procedure.

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The Child, His Doctor, and His Surgeon

By SAMUEL W. KELLEY, M.D., F.A.C.S., Cleveland, Ohio

MOST persons think of a child as "a little faithful copy of his sire," just like a "grown-up," only, of course, smaller. They seem to suppose that his anatomical parts are all there, only more delicate and tender, and that his organs act and react in the same manner and relation to one another, only not so powerfully as those of his parents. This concept of the child corresponds to that depicted by some of the old painters, in which the infant Jesus is made to look like an adult in miniature, as for instance in Giotto's "Madonna and Saints" and the "Madonna dei Linajuoli" of Fra Angelico.

We recognize the unnaturalness in these pictures; and yet, many of us have advanced no farther in our conception of the truth when we consider the child in need of medical or surgical attention. He is to be treated just like a full-grown, except that he is to be given smaller doses. This is as logical and as successful in the result, the late Dr. Cotton, of Chicago, used to say, as it would be to try to clothe him becomingly by taking one of his father's suits and shortening the sleeves and trouser legs.

The child is not merely a little man or a little woman. It is a child, and that is something different, anatomically, physiologically, and pathologically. In other words, both when normal and when abnormal, he differs from the adult type which is the generally accepted and studied standard of the species, and he deserves study in a class by himself.

Let us note just a few points among the differences. To make my comparison obvious, I will remind you of the law of the proportions which was used by those ancient Greek sculptors whose masterpieces have won the admiration of the world, and which have ever since been emulated without being eclipsed. For the adult, they took the length of the head for the unit of measure and divided it into four parts. The first part reached from the top of the head to the edge of the hair on the forehead; the second part from the edge of the hair to the root of the nose between the brows; the third thence to the lower end of the nose; and the fourth from there to the point of the chin. By this unit and fractures of it, every part was measured. The entire height was eight times the length of the head,

the mid-way point falling exactly upon the os pubis, the front bone of the pelvis.

Child's Body Differently Proportioned

Compare this with the newborn baby. We will find the whole figure is only four heads long, that is, one-quarter of the entire height is head, and the central point falls at the navel. A child two years old is about five heads tall. At four to five, its head is one-sixth of its whole height. After the age of six, growth of the lower half goes on more slowly and only in the fourteenth year is the height about seven heads, and the central point approaching the os pubis. At birth, the head is greater than the thorax, the cage of ribs and breast-bone which is fastened to the spine and holds the heart and lungs, part of the greatest blood-vessels, and in the child also the thymus gland.

To make these differences more graphic, imagine an adult with a head forming one-quarter of his height and more bulky than the chest.

The child's muscles are small, soft and weak. His bones contain but one-third part of the earthy salts which give firmness, and two-thirds of animal matter which is pliable; whereas in the adult the proportions of animal matter and salts are just reversed. In the young, the periosteum, that strong membrane next to the bone, is thicker and richer in blood-supply, and peels easily; and the joint-ends of the bones are not firmly attached to their shafts. Think what different effects would be produced by violent injury to such structures. The child has all his fat just under the skin and none packing his internal organs as in the adult.

The baby's brain is not much firmer than clabbered milk. It is large enough to lead one to suppose it capable of mental action; but development of convolutions and gray matter and inter-communicating nervous tissue, and not bulk of brain determine mental capacity, and these are only shadowed forth in the infant and develop in progressive stages as the child grows.

The small intestine increases about four feet in length in the first two months after birth, and the stomach capacity from one ounce at birth to nine ounces in the first year. In the adult, the proportion of the whole weight of the blood to the body-weight is as 1 to 13, or 8 percent; while, in the infant, it is as 1 to 19.5, or 5 percent. Do you think that the infant can probably endure hemorrhage equally with the adult? In the adult, the liver is one-thirty-sixth of the body-weight, while in the newborn it is one-eighteenth.

Growth and Functions Differ

These are but a few among hundreds of points of difference from the adult type that could be cited in the anatomy of the child, the proportions and consistency of various parts and organs and their positions relative to each other. It is to be recollected that these change continuously as growth and development go on. But the changes do not take place at a uniform rate of speed nor proportionately in the various systems, members and organs. At one stage, a certain part takes on rapid growth while another grows but moderately. Then the conditions are reversed and the first lags in development while the second forges ahead. Meanwhile, other parts have advanced in varying degrees or even retrograded or disappeared.

The differences in the child's physiology, that is, the functioning of its organs or members, are equally great as those in its anatomy. Its digestion, its circulation, its respiration, its secretory and excretory systems, its nerve control over muscle tissue, both striped and unstriped, in the domain of the voluntary or conscious functions and in that of the involuntary or vegetative functions, all are different from those of the established types and processes in the adult and are still subject to unceasing mutations.

Peculiarities Exist in Child's Pathology

Knowing such striking differences of structure and function to exist, one would expect to find peculiarities in the diseased conditions, or, as the doctors say, in the pathology of infancy and childhood. Experience proves this to be true. And not only do structures and functions play a part, but so also does environment. Besides, the effects of heredity and prenatal history first come to light at birth. A babe may have been afflicted with disease during intrauterine life, it must undergo the perils of injury during the process of birth, then be separated from its mother and encounter a new state of existence. It must at once proceed to do its own breathing, effect in an altered manner its own circulation and nutrition, regulate its own body-temperature, in a world that is subject to vicissitudes affecting all these functions and swarming with germs and parasites in as infinite variety as the plants, insects, birds, fishes and all animals of our visible world and existing in hosts incalculable. Fortunately, not all of these organisms are harmful to the human creature, but many of them are, and they find in the tender and sensitive organism of the child a virgin soil, food, shelter, playground, that

suit them exactly. They lose no time about taking possession. I might pass without mentioning measles, whooping-cough, scarlet-fever, diphtheria, pneumonia, meningitis and tuberculosis; they are so commonly known as deadly enemies of childhood. Each claims its thousands and tens of thousands of young lives every year the world goes on. In countries and communities where vaccination is unknown or neglected, smallpox is still a loathsome plague. I have not even alluded to blindness, deafness, paralysis, mental impairment and other frightful souvenirs left with thousands who escape temporarily with their lives. Nor have I mentioned the diseases and disorders of digestion and nutrition, to describe which would require volumes; and numerous others we will pass unnoted.

Specialistic Children's Physicians

Now there has accumulated such a vast store of knowledge concerning children, and about their diseases and how to avoid them or to treat them, that many physicians devote their entire time and attention exclusively to the little folks. And, in the last generation, it has come to pass that, in large centers of population in this country, parents quite customarily demand for their children, at least in all illnesses evidently serious, the services of a medical specialist in this department. In more sparsely settled regions, the medical practitioner must spread himself the best he can, not only over his surrounding territory, but over the extensive fields of some sixteen principal specialties, not counting radiology, clinical pathology, bacteriology, anesthesia, medical chemistry, to each of which many are devoting their undivided efforts. The knowledge of medicine in its entirety has become immense, and the division of labor has worked well, in practice, and this is as true for the department of pediatrics as for other special departments, where rightly applied. In fact, to secure the best possible results for our patients, specialization is indispensable.

Surgical Diseases in Children

The public does not yet seem to be fully aware that the surgical conditions of children are as distinct in their peculiarities as are their medical diseases, and that, if parents demand it, they can secure special skill in their care. The differences in anatomy, physiology and pathology and the circumstances incident to birth, growth and development, which I have but briefly indicated, are all at work allowing or modifying in various ways the diseases, the results of accidents, operative procedures, and all conditions surrounding treatment in cases

which we classify as surgical.

Some surgical disorders are found at no other time of life than in infancy and childhood, while others (although they may occur in adults also), when they appear in children, present different disease phenomena, run a different course, require different treatment, and arrive at different results from what would be usual in the adult.

It is clear that the congenital malformations are first evident at birth. These are such as harelip and cleft palate, congenital dislocations of joints (most often the hip), encephalocele and meningocele (in which the brain and its membranes or the membranes alone bulge through a gap left in the skull), a similar condition occurring in connection with the spinal cord and spine and known as spina bifida, extroversion (turning out or absence of the front walls of the bladder) similar gaps in the walls of abdomen or chest, certain forms of ruptures and hydroceles, malformations of the genital organs and of the rectum and others of a list too lengthy to be introduced here.

Then there are accidents incident to birth itself, fractures and separations of joint-ends of the bones of the extremities; also fractures of the skull, often with hemorrhage within the head and, unless skillfully treated, apt to produce grave immediate results or remote consequences such as spastic paralysis and imbecility.

The whole subject of fractures and dislocations in children presents peculiarities. Intussusception (telescoping of intestines), hip-joint disease, rickety deformities and many other joint and bone diseases practically belong to the surgery of children. Croup and abscesses in the chest in children often require operation. All these conditions vary in children from similar afflictions if they are ever present in adults; and they require expert diagnosis and treatment if one would have the best results for the patient, and also for the sake of advancement of knowledge and skill in this department.

Surgery in Children Difficult

Guersant, eminent surgeon, who in Paris, in 1840, gave the first extended course of instruction in the surgery of childhood, wrote (1864): "It should be stated that, when it comes to the operation on children, the task claims from the surgeon the most exact knowledge of anatomy, for the regions being of less extent and the spaces smaller, it is often necessary to limit the incisions and to give them only such dimensions as are absolutely necessary. For example, the neck of a

child of two years who must have a tracheotomy performed does not allow the same field for action as in the adult. The incision of the perineum, in a patient of the same age, demands more care on the part of the surgeon in the performance of lithotomy. In short, we should be well persuaded of a fact of which many persons seem ignorant, that operations are more difficult in children than at a more advanced age." I, myself, wrote (1908): "There should be children's surgeons as well as children's physicians; or, 'if one objects to cutting up surgery into little pieces,' as Timothy Holmes says, 'it should at least be required that the surgeon extend his knowledge to pediatrics. Thus only can he be qualified to practice successfully among children.'" As to whether the same surgeon should treat both, adults and children, is not the main question. The point is that, whoever essays to practice surgery upon children should have the necessary knowledge and training in this department, and one who has not taken the trouble to acquire these should have no right, in conscience, to take such cases. Surgeons who give special study to children, who have learned their special anatomy, physiology, pathology, and are most accustomed to working with them, best know to what degree they can endure hemorrhage, prolonged traumatism, shock, to what extent they can be expected to recuperate when the stress of the storm is past, their behavior under anesthetics, response to drugs, tolerance of antiseptics, the fine arts of dressing wounds and bandaging as applied to children, diet as related to surgical cases, the psychology of the child and the knack of managing him, and many other things quite unfamiliar to the most learned and skillful who deals only or mainly with adults. The former will be less likely to mistake the condition, miscalculate the probabilities, misjudge the vital force, or fail to carry through the projected plan to a successful issue.

This is not claiming too much for the chil-

dren's surgeon. It only corresponds to what occurs in other departments and what one would reasonably expect as the result of faithful endeavor to acquire knowledge and skill by devotion to one department of practice.

The Child's Surgeon

Concerning the merely personal qualities of the children's surgeon, Sir D'Arcy Power, of London, wrote (1895): "The children's surgeon requires some special qualifications if he is to be successful in the practice of his art. He must be rather more observant than the surgeon who deals chiefly with adults, for much can be learnt from an attentive study of the little patient who is, as yet, unable to express his feelings or his symptoms. He must be very gentle in all his manipulations, for the tissues are but fragile and the sensations are very acute. He must be sympathetic, and must possess the power of winning a child's affections, and that quickly; for, when such confidence is once obtained, the child will permit many liberties to be taken with it which would otherwise be impossible. Above all, the children's surgeon must be possessed of as keen an eye and as unerring a hand as a skillful operator for cataract, since most of his operations have to be done in a limited space and upon the most delicate structures. In fine, the children's surgeon should be the antithesis of the late Poet Laureate's ideal: 'big voice, big chest, big merciless hands.'"

A generation or two ago, the average doctor was inclined to say: "Oh, any doctor can doctor children, there is no especial knowledge required for them." Experience has since disproven this dictum. Nowadays, the average surgeon is apt to say: "Why, any surgeon can handle a child's case well enough." But, when the public generally becomes aware of the facts that special knowledge and skill are required and are available for the children in need of surgical attention, it will be a happy day for the little sufferers of the present, and will promote advancement of the science and art for the benefit of those who will follow.



Surgical Seminar

Conducted by GUSTAVUS M. BLECH.

Solution of Problem No. 12

RECAPITULATION of the Problem.—Dr. M. E. Bovee, of Port Huron, Mich., kindly furnished us with this problem, which relates to an actual occurrence in his own practice. The problem was published in the November issue and concerns a young man of nineteen years, who, for two months preceding Dr. Bovee's first consultation, had suffered from what was diagnosed as pneumonia.

The patient appeared to be in bad shape, face pinched, temperature ranging from 99 to 102° F., pulse fluctuating between 135 and 140. The patient had a mild cough, anorexia and dyspnea. The heart pulsation was felt on the right side of the chest. Inspection revealed an emaciated individual but otherwise nothing noteworthy. The percussion note showed dullness around the heart and tympany to the left of the heart, while posteriorly small areas of dullness were elicited, insufficient in themselves to make a diagnosis possible. Auscultation revealed diminished breath sounds.

Aspiration of the chest at several places permitted the needle to enter without encountering any resistance but nothing but air was withdrawn.

On these data, the requirement called for a diagnosis of the condition.

**Solution by Gen. Geo. Acheson,
Kingston, N. B., Canada**

The history and symptoms of this case seem to point to pneumothorax or, rather, a pyopneumothorax on the left side.

A preexisting pneumonia, which did not resolve, probably terminated in gangrene involving the visceral pleura and perforating into the pleural cavity.

We are not told enough of the history of the case to be sure of just what did take place, but I think that the symptoms described are sufficiently diagnostic of pyopneumothorax, even though the aspirating needle withdrew nothing but air. The areas of dullness are to be explained by a thickened pleura, or by local accumulation of pus.

**Solution by Dr. I. E. Crack,
Hamilton, Ont., Canada**

The solution, I think, largely depends on

what the young man had two months ago when a diagnosis of pneumonia was made. If he had actually pneumonia, then, I believe, a lung abscess resulted, which has ruptured into the pleural cavity causing a pneumothorax.

What is very likely is, that the disease was tuberculous from the beginning and the patient has a tuberculous pneumothorax. The whole picture presented here will, I think, fit into this diagnosis.

Dr. Bovee might have given us a few more physical signs, for instance, by being more specific about the posterior areas of dullness. The question also suggests itself, whether there was any bulging of the left side of the chest, and what was found on percussion and auscultation of the upper part of the left lung; whether the right lung was clear, etc., etc.

Still further information should be sought from an examination of the sputum and roentgenography of the chest.

**Solution by Dr. Clymer D. Jeffries,
Williams, Arizona**

The condition is either a pericarditis with effusion or an empyema. I incline to the diagnosis of an interlobar or loculated empyema.

I have been strongly impressed by the numerous cases of empyema that are overlooked by the average practitioners of medicine, I myself having been called upon to drain a number of cases where the patients were well-nigh moribund.

It is not an uncommon thing for an empyema to follow pneumonia, and I am heartily in accord with Cabot who maintains that many so-called cases of delayed resolution are in reality empyemas.

In the case presented, the patient was seen two months after the initial illness and the irregular temperature, the dyspnea, the weakness, emaciation, cough, coupled with the heart beat on the right side of the chest, represent a classical picture of empyema.

The question presents itself, how the dullness around the heart and the absence of pus on aspiration are to be explained. The answer is, that the dullness points to pus being collected or sacculated behind the heart, and that pus is not always found by aspiration

even by skillful diagnosticians, for the simple reason that we are not always lucky in striking the pus pocket or pockets.

I am convinced that a thorough examination by means of the x-rays will not only confirm my diagnosis but reveal the location of the pus collection with exactness.

**Solution by Dr. J. A. Dungan,
Greeley, Colorado**

In this problem, the very first thing to consider is pyopneumothorax. While no mention is made of it in the problem as presented, we no doubt have here a leucocytosis. We recall that the majority of the gas-containing abscesses are found on the right side of the thorax, otherwise the symptoms of the insidious variety, which has its origin above the diaphragm, coincide.

The second and, to my mind, a rather likely condition, is a tuberculous pneumonia starting on the left side, with the formation of a large cavity partly filled with pus and partly with gas, which has rapidly destroyed a large portion of the left lung; only the posterior portion remaining in patches which consist of more or less diseased lung tissue, while the heart has been pushed to the right by the very size of the formation.

The fever corresponds. The dyspnea, the areas where lack of breath sounds is noted, correspond. Finally the semichronicity and the emaciation resulting from the fever and anorexia complete the picture.

Lastly, we must exclude pulmonary empyema of pneumonic origin (left). In such an event, we would very likely have a polynuclear leucocytosis, probably with irregular flights of fever, and sweating.

I am inclined to the belief that, if such an empyema happened to be combined with a pneumothorax, the other features would correspond fairly well.

**Note by Dr. W. L. McBrien,
Staunton, Illinois**

I have been very much interested in the problems presented in the Surgical Seminar and especially so in problem No. 12 presented by Dr. Bovee.

The author could have added some valuable information, had he given us the result of the white blood corpuscle count. As a matter of fact, a thorough blood count is strongly indicated in this type of cases, because of its tremendous diagnostic value. A complete urinalysis, too, might have been of some help to us.

With the limited data given by Dr. Bovee, a diagnosis of tuberculous pericarditis with ser-

ous effusion in the pericardium seems plausible.

**Note by Dr. Emil C. Junger,
Soldier, Iowa**

There is no doubt in my mind, after a thorough consideration of all the rather limited data presented by Dr. Bovee, as surgical problem No. 12, that his patient must have had some chronic suppurative or ulcerative process of his left lung, which perforated into the pleural cavity, admitting air through a bronchus.

The physical findings seem to point to a pleural cavity filled with air and collapsing the lung. Nevertheless, in the diagnosis, one has to consider and rule out also chronic empyema, chronic lung abscess, and pericardial effusion. That a tuberculosis or even a malignant growth can produce these conditions is too well-known to require more than mention as possible, though not probable, etiologic factors.

**Note by Dr. J. L. Pritchard,
San José, California**

After a year's reading of the Surgical Seminar, I have at last become infected and have fallen a victim. Herewith is my solution of Surgical Problem No. 12.

This is a typical picture of spontaneous pneumothorax accompanying tuberculosis. The problem as presented fails to convey the information, in what location aspiration was tried; for, surely, the aspirating needle does not "seem to fall into space" in every part of the chest.

The dullness around the heart may be due to the collapsed lung, to a pericardial effusion, or both.

From a purely diagnostic point of view, there are one or two other possibilities which should be kept in mind.

I would mention as of first importance a diaphragmatic hernia.

Without wishing to be critical, I am constrained to assert that the problem does not contain sufficient data. Surely, a trained observer at the bedside would find several additional and more salient features upon which to base a diagnosis.

Solution by a Friend of the Seminar

(residing in California who requested that his name and identity be withheld unless the diagnosis made by him coincides with that of Dr. Bovee.)

My diagnosis of this case is: Tuberculosis of the lung, complicated by left pneumothorax and tuberculous pericarditis with effusion.

In the history presented, nothing is said

of the patient's condition previous to being taken sick with what was diagnosed as pneumonia. So, we may assume that he had been in good health. Now, I know of no other disease or malignant growth, outside of open wounds of the chest, that can enable the entrance of air into the pleural cavity as easily as tuberculosis. A cavity near the periphery of a lung will just break through and empty itself into the pleura. That is what I assume to have taken place in the case under consideration. The young man's age, the fact that tuberculosis is the leading etiologic factor of pneumothorax, rather support my view. The result of the aspiration—"the needle seems to fall into space and nothing but air can be withdrawn"—the tympanitic note on percussion, the diminished breath sounds, dyspnea, cough and the displacement of the heart—all present evidence of the presence of a pneumothorax.

It is true that, at the time the patient was examined, the air should have been reabsorbed. But, here, we have in all probability a valvular pneumothorax; or else, a gas-producing bacillus, following the breaking through of a tuberculous cavity, is responsible for the condition. Infection of the pleura explains the areas dull on percussion, being the result of posterior, localized, serous or purulent effusions, doubtless aided by the prolonged recumbent posture of the patient.

Accepting tuberculosis as the cause of the pneumothorax, the dullness around the heart is explained by a tuberculous pericarditis with decided effusion, which is known to assume large proportions. The fever is in direct relation to the tuberculous infection and to the tuberculous pericarditis.

The pulse rate of 135 to 140 must be looked upon as an index of the condition of the heart muscle. The general toxemia and the presence of liquid compressing its own blood supply are the secondary factors influencing the activity of the heart muscle.

Editorial Comment

I am very grateful to Dr. Bovee for having presented this very interesting problem and I am, of course, equally grateful to all the gentlemen who have sent in, not only the solution, but also, encouraging words about the helpfulness of the Seminar. It is becoming now a pleasure to edit that small department; whereas, but a few months ago, I had about made up my mind that I was not accomplishing what I had originally in mind to attain.

I am not going to discuss the papers technically. I have a double reason for this. In

the first place the solutions as presented by the contributors to this issue are fairly exhaustive, lucid and, above all, exceedingly logical. General Acheson hits the nail on the head and tells us why. Dr. Crack is always saying something instructive and worth while. Everybody will admit that Dr. Jeffries is an excellent diagnostician and I only hope that we shall hear from him quite often. Dr. Dungan takes high honors, Dr. Junger, from whom we have heard before, is a little too terse but quite to the point, as are Drs. McBrien and Pritchard. Our anonymous contributor had no cause to ask me not to mention his name, as the exact diagnosis is not at all the issue but rather the manner in which we arrive at a diagnosis, and he has given us an excellent discussion.

In the second place, any attempt on my part to inject my personality in the discussion would have been unfair; for, in his first communication, Dr. Bovee threw out a hint to be careful; that the diagnosis was not what it appeared to be at first glance and that the symptoms should be studied with care. This was too much of a good thing, and, as long as I struck that out from Dr. Bovee's manuscript, I had no right to participate, though I admit that I should have approached the problem somewhat differently than any contributor has done.

I always want the readers to remember two things: first, that the data on hand are the only ones available, that nothing is to be added that is not given, as otherwise it would have been stated, and that the solution is best approached practically, that is to say, much the same as we endeavor to solve diagnostic problems at the bedside.

Now, I, too, missed the comparative blood count and the radiograph or fluoroscopic examination.

For a while, I thought of asking Dr. Bovee to supply us with these data; but, on second thought, decided to let matters stand as they were.

Supposing Dr. Bovee's patient lived in a village, miles away from a medical laboratory, and an approximate diagnosis was expected of the consultant, then and there. Surely, we would not shrug our shoulders and say that we were helpless without a blood count and the x-ray. No one more than I appreciates the diagnostic value of the modern laboratory facilities, and I use them in every case possible, but I pride myself on the fact that I am at least endeavoring to be as good a diagnostician as my great teachers were, who had

to labor in an era when Roentgen's discovery had not yet become available. Likewise, we diagnosed the presence of pus without the microscope, and, in the presentation of cases in the Seminar, I often advisedly omit all the laboratory findings, because of the danger of relying too much on their interpretation.

There is only one more comment I desire to make and then I will let Dr. Bovee present the solution, and that is, that I am in full accord with him, that irrigation of the pleural cavity, especially under pressure, is likely to be followed by regrettable consequences.

Solution by Dr. Bovee

The aspirating needle was inserted for several days to remove the air and, suddenly, on the fourth or fifth day, pus began to come out of the needle. I might add that the x-ray examination had shown a mass around the heart and to the left of it.

My surgical colleague operated on the patient and removed about a quart of fluid and large masses of caked pus. The precarious condition of the patient necessitated that the operation be done under local analgesia. In direct opposition to my wishes, the operator forcibly irrigated the cavity for the purpose of removing the pus clots. The patient seemed to be doing nicely for about twenty-four hours after the operation, when he died suddenly.

In my mind, there is no doubt that death was due to embolism. My diagnosis before operation was pyopneumothorax.

The aspirating needle had been inserted into the sixth interspace in the axillary line in the direction of the heart. Operation was performed at the same site.

I believe that this patient might have recovered, had it not been for the irrigation as it was administered. Irrigation without undue pressure might have proved sufficient and certainly less risky.

Problem No. 13

In presenting the following problem, I am cautioning the readers that I am giving them all the facts as seen by me and that, in my judgement, the problem is comparatively easy and at the same time of great importance from a purely practical point of view, partly because any practicing physician is liable to encounter a similar case any day, and partly because a human life may be placed in jeopardy by an improper decision.

In December, 1922, I was called telephonically to a neighboring town to see a young farmer, who had been ill but two days. His physician told me to come prepared to operate for appendicitis, as the patient had unmistakable

signs of the disease, even peritonitis, and that the father would not consent to an operation until a "professor" was sent for. So, I went by automobile all ready for an emergency laparotomy.

Two hours later, I was at the bedside, and here are the notes and impressions:

The boy was 19 years old and, outside of measles, never had been ill. Two days ago, he came home from a sleigh ride and complained of feeling chilly. His mother prepared him a hot alcoholic drink. He complained of pain in the epigastrium and said he wanted to vomit but could not. He had headache, pains in his chest. The next day, his physician was called in. The physician found some distention of the abdomen and not only "muscular defense" but tenderness on pressure, the patient wincing on examination. The physician applied an ice bag over the right lower abdomen, and left strict orders not to give the patient a drop of water or a morsel of food.

Physical examination by the attending physician and myself: Pulse 126, regular, bounding, temperature 104 degrees Fahrenheit, respiration 32, rather shallow. The face of the patient appeared flushed, the eyes shining and, yet, there was anxiety in the facial expression. Absolutely no hippocratic facies. Heart and lungs on careful examination reveal nothing abnormal. It was while turning the patient for percussion of his chest, that he told me I caused him pain in his right side, he pointing with a finger to the region of the liver immediately below the costal arch.

The distention of the abdomen was undeniably present. No flatus had been expelled nor did the patient have any bowel movement since he took sick. There was considerable tenderness on pressure over the somewhat rigid abdominal muscles, especially in the right upper quadrant. A specimen of urine which had been preserved for me showed a specific gravity of 1026, looked reddish and smoky, but nothing abnormal could be detected by boiling and the Heller test. A search for sugar was not then made, because there was no reagent in the physician's office, but eventually sugar was proven to be absent.

A blood count was made by me personally and showed 15,000 leucocytes of which 85% were polynuclears.

The attending physician had the gravest fears, prognostically, and promised himself little in this case from the starvation treatment.

Requirement: You are the consultant. State your decision in this case.

The General Practitioner

Talks About Professional and Personal Problems

Conducted by WM. RITTENHOUSE.

A NEW SERIES OF ARTICLES ON OBSTETRICS

THIS department under its title of "The General Practitioner" has not given as much attention to obstetrics as its importance demands. A considerable part of the general practitioner's work consists of obstetrics and, in many respects, it ranks first in importance.

Of the thousands of students who listened to my lectures on this subject, in the past forty years, and who are now practicing in various parts of the United States and Canada, a considerable number have written from time to time to request that I write more on the subject of obstetrics.

It has therefore been decided that I shall devote a portion of the space in this department to articles on that subject. The human-interest side of the department will, however, not be neglected, and I may say that correspondence will be welcomed as before. Owing to ill health during the past six months, my end of the correspondence has perforce been much delayed; but, from this time on, letters will receive prompt attention.

The attitude of the medical profession toward the subject of obstetrics has undergone a gradual change during the past quarter of a century. The tendency to specialization has deeply affected this field of the work, with the result that able and experienced obstetricians are growing somewhat scarce, especially in our great cities. The reason of this paucity lies in the fact that a doctor cannot make himself a specialist in obstetrics in the sense of limiting his practice to that field alone, and be sure of an adequate income. Even if he could get patients enough, the exhausting character of the work would soon break down the strongest constitution. The man who becomes a specialist in this subject must expect to get the hard cases. This fact, and the inevitable night work, make it necessary that the specialist have an iron constitution, that he be willing to sacrifice most of the pleasures of life, and

that he be satisfied with a financial return at which specialists in other lines would turn up their noses.

For these reasons, it can hardly be expected that we will have many doctors who will limit their practice to obstetrics. Forty years ago, every general practitioner did enough of this work to make him skilled in it and valuable as a consultant in a difficult case, provided that he had a natural aptitude for the work. So, when the family physician had a case where he needed counsel, he had no difficulty in finding among his colleagues plenty of men who were qualified by experience to give the assistance needed. Let me emphasize that *nothing but experience* can qualify them.

Today, when the family physician needs an obstetric lift, it is often very difficult to find some one to fill the bill. The family physician is growing scarce, and the skilled obstetrician scarcer. The other day, a general practitioner called me up to ask for the name of some one who could help him out on a difficult forceps case. I tried a number of men who, I knew, were doing family work. The answer in every case was, "not doing obstetrics". My friend was reduced to the necessity of choosing out of two groups; namely, obstetric specialists whose fees were entirely beyond the reach of the family in the case; and, young men recently graduated and with too little experience to be of any value as consultants.

Please note that I do not belittle the recent graduates. Most of them are able and sincere. But nothing—absolutely nothing—can take the place of actual experience.

To a certain extent, selfishness is responsible for the present condition. I often hear a doctor who is in general practice say, "I don't like obstetrics and do not take those cases." Is it any worse for him than for the rest of us? A good many of us do not enjoy the hard deliveries, the night work, the irregular hours; but we take our share of them from a sense of duty. A generation ago, every general practitioner did the obstetric work for his

regular families, and he was none the worse for it, while the community was a good deal the better.

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In country practice, the evil is not quite so great. The bulk of the work is still done by men who are in general practice of a character broad enough to make them skilled in almost every kind of work that they are called upon to handle.

There is no question that the country doctor gets a training that is most valuable—a training that develops his resourcefulness and fits him to meet difficulties. The city doctor finds it so easy to call in the help of a specialist, that he never finds out what he could do if he had to. I have always had a high opinion of the ability, skill, and resourcefulness of the family physician in country practice. I had the good fortune, in my student days, to spend a year with one of these fine old heroes of the profession, riding about the country with him, seeing a great variety of cases, helping on operations, and putting up prescriptions in his office. I have always regarded this year under my preceptor as the most valuable in all my student days. The profession has certainly lost something of great value in the passing of the old-time relation between student and preceptor. Today, even those who are fortunate enough to have a period of hospital training do not get the kind of experience that will serve them best when they go out to face the exigencies of family practice. The hospital experience is exceedingly valuable, but it leaves much to be desired.

At the present time, even among the men who do the bulk of the work in the country and in the small towns, there is a growing restlessness and a desire to get into the city, which does not look hopeful for the future. I hear of many communities in the middle west that are without a doctor, and the reason is the same in each case—the desire to get into a city practice.

It is easy enough to point out these deplorable conditions, but not so easy to find a remedy, because we have to go counter to two of the strongest sentiments of human nature: the love of ease, and the love of money. However, every evil works its own cure in time and, I suppose, this one will do the same.

The Diagnosis of Pregnancy

To determine the existence of pregnancy, is not always easy, especially in the early months. In spite of its difficulty, it is often a matter of much importance, and it behooves the physician to exercise his best skill and, especially,

to be cautious about pronouncing a positive decision, because the most weighty considerations may depend upon his diagnosis.

1.—It may involve the character of the patient and the possible wrecking of a home.

2.—The legal rights of offspring may depend upon it.

3.—So may the determination of serious operative procedures, as in extrauterine pregnancy.

4.—The physician's own reputation for skill is liable to suffer if he makes a mistake.

For these reasons, great conservatism should be exercised in the matter. We are often asked to make a diagnosis merely to satisfy curiosity. A married woman who is in good health has no reason for bothering her physician; she can well afford to wait until nature herself settles the matter. Too frequently, the intense eagerness of a patient to have a diagnosis is due to a determination to have a criminal operation performed or to protect herself from scandal.

When a woman comes to a physician for a diagnosis, he is justified in saying to her, "Why do you want to know *now*? Why can you not wait until the course of events makes the matter plain?" This very often brings out some reason that is not creditable to her. If she has a good reason for wanting to know at once, it is, of course, all right for the doctor to want a thorough examination and give his opinion accordingly.

I may here refer to a danger that any physician is liable to come in contact with. A woman who is a partial or total stranger comes into the office and asks the doctor to ascertain whether she is pregnant. He makes an examination and gives her an affirmative answer. A few days later, he reads in the papers that the same patient was taken to a hospital in a critical condition as the result of criminal abortion. If she accuses the doctor for the purpose of shielding the real criminal, or even if she does not, the police are pretty certain to worm out of her the fact of her having visited the doctor's office. In either case, he may find himself mixed up in an unpleasant affair, even though he comes out of it clean. Because of this danger, some physicians refuse to examine strangers except in the presence of a trustworthy witness. Even then, such a witness, under cross-examination by a shrewd lawyer, if the matter came to a criminal trial, might not be able to protect the doctor in the eyes of the jury. The lawyer asks: "Can you swear that the doctor did not introduce an instrument into that uterus?" In

many cases the witness would have to say "no".

When a patient desires a diagnosis legitimately, it is well to inform her that the results of an examination in the first three months are very uncertain; that the best he or any one can do is, to ascertain what signs exist and report them to her; but that he cannot guarantee their reliability. It is bad policy to leave the patient under the wrong impression, which she already has, that the doctor could tell if he only wanted to.

If a woman, who has always been regular in menstruating, has married or otherwise made pregnancy possible, and if then menstruation is suddenly suspended, the probability is, that she is pregnant; but it is by no means a certainty. If amenorrhea and morning nausea are both present, the probability is stronger, but still not a certainty. Of course, in many cases, the probability is *very* strong, and a great majority of cases are diagnosed by the patient herself on these two signs. Still, one must always bear in mind that there is a difference between probability and certainty.

When weighty reasons exist for an exact and positive diagnosis, such as determining the date of conception where the legal rights of offspring may be involved, or when a possible extrauterine pregnancy is to be determined with a view to operation, then every possible means of diagnosis must be employed.

The only absolutely positive signs of pregnancy are, fetal heart sounds, quickening, and ballottement, the description of which can be found in any textbook on the subject. These signs, however, appear so late (after the middle of pregnancy) that the diagnosis has usually been made beforehand on general conditions.

Nearly positive are the uterine murmur (bruit, or soufflé), and intermittent contractions of the uterine muscle. These two are not classed as positive because they are sometimes present when the uterus contains a tumor. The bruit is apparently produced by the movement of the blood supply in the uterine vessels, circulating for the nourishment of a fetus or of a tumor.

The uterine contractions take place when there is any sort of a mass in the uterine cavity. It seems as if the presence of a mass in the uterus causes reflex contractions for its expulsion. Whether this is the explanation of the contractions of pregnancy, is a matter on which there may be different opinions. One writer has suggested that the contractions are

nature's method of strengthening the muscle by exercise, in preparation for the prodigious efforts of expulsion at delivery. Whatever may be the true theory, it is a well-known fact that contractions take place when the uterus contains a tumor, and also when it contains a packing of gauze.

As the five signs already mentioned are found, as a rule, only after the middle of pregnancy, their positive recognition is necessary only in specially difficult cases.

In listening for the fetal heart beat, it is useful to bear in mind that it resembles the ticking of a watch heard through a feather pillow; or, better still, the sound heard by placing the palm of the hand firmly over the ear, and tapping lightly on the back of the hand with the tip of a moistened finger, about 120 times a minute.

Quickening (from the old meaning of "quick", alive), as a subjective symptom, is not of much value because the patient very easily deceives herself. As an objective symptom observed by the physician, it is thoroughly reliable, because fetal movements felt by the hand are unmistakable. Of course, the patient can feel these movements long before they can be detected with the hand; only, she is liable to imagine them when they do not exist.

Ballottement, which consists in tossing the fetus about with the finger as it floats in the liquor amnii, is an absolutely certain sign, but it requires some skill. The patient should be in the upright or nearly upright position. The tip of the index finger in the vagina rests against the uterine globe: a quick push upward is given and the finger is kept in position; the fetus, being slightly heavier than the liquor amnii, rises to the top and then returns, striking the finger with a gentle shock. It is one of the most interesting demonstrations in the whole subject.

In recognizing the uterine bruit, the main point to bear in mind is, that it is an intermittent, blowing sound, sometimes musical, and always synchronous with the mother's pulse.

The intermittent contractions of the uterus require patience to make out, as they may occur only every fifteen minutes or at even longer intervals. The occurrence of one is known by a gradual hardening of the uterine body under the grasp of the hand, lasting a fraction of a minute and then relaxing.

What is known as Hegar's sign is highly thought of by some, but is liable to be uncertain. It may be described as a combination of enlargement of the uterine body and soften-

ing of the cervix, so that the offset between body and cervix is made more noticeable. It is of use in a primipara only, but its value lies in its early appearance. It can occasionally be made out at from four to six weeks, according to its enthusiastic advocates.

The violet color of the vagina is a sign of value in some cases, but is often absent.

Breast signs also have some value. There is enlargement, hardening, and the presence of pricking sensations or darting pains. There is enlargement of the areola around the nipple, greater prominence of the nipple, and increase in the blue veining of the skin.

Question Drawer

"H. T. T."—What is the proper English pronunciation of the name "Goethe"?

Ans.—An English pronunciation of this word had not yet become thoroughly established by usage. The sound of the German diphthong *æ*, is one that does not occur in English. There are many proper names that contain such sounds and, usually, an English modification is adopted; for example, "Wien" becomes "Vienna" in English; "Köln" becomes "Cologne"; "Livorno" becomes "Leghorn"; "Venezia" becomes "Venice", etc. It is, of course, not to be expected that Americans should learn all the strange sounds of foreign languages. A good many Americans try to imitate these sounds and usually make a mess of it. To say "Parce" for "Paris" is regarded as affectation. Sometimes, these attempts are ludicrous. I heard a man, who has a reputation as an orator, pronounce the German poet's name as "Gerty".

Any one who has heard Chicago street-car conductors wrestling with the name of Goethe Street will realize that a standard English modification would be very desirable.

If we follow the rules of philological change, *æ* becomes long *a* in English: German *th* (not aspirated) becomes *th* aspirated. So a logical pronunciation for English speaking people would be "Gaythe"—*a* as in *cane*,

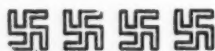
th as in *bathe*, *e* as in *open*, and this is the pronunciation that many well-educated people use in speaking English. If one knows German and prefers to use the German pronunciation, he is privileged to do so. German *æ* sounds so nearly like long *a* that their poets sometimes make them rhyme.

This reminds me of an argument to which I listened some time ago, as to whether it is possible to learn a foreign language from a book so as to pronounce it correctly, without the help of a living teacher. It is possible, but not often accomplished. I have seen it done, and have done it myself, but two conditions are indispensable. First, the book must have been written by an author who can describe exactly how to place the vocal organs so as to produce the desired sounds; and, in the second place, the learner must be able to learn from a book—in other words, he must be able to do as he is told, and a good many people cannot do that or think they cannot. There are plenty of books that tell how to make a given sound, but not many pupils who can learn such a thing from a book. For my part, I prefer to learn from the printed page, because it is always there, and I can go back to it as often as I choose. It is fine mental training, too, for it hammers into the mind the rule "Be exact", and that is just what most pupils need. If a language has been learned without a teacher, it is well to have one's pronunciation criticized by a competent person before attempting much in the way of conversation.

Of course, having a teacher saves much time and hard study. Better still is, to mix with people speaking the language.

This question came from a student in the country where no teacher was available. To such, I would say "Go ahead by all means". Even to be able to *read* a language is well worth while. To *speak* it may be learned later, and the correction of mistakes in pronunciation is not a serious matter.

2920 Warren Ave.



Good Medicine

Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER

What Do You Think About It?

SOME able aphorist once said that, if he could "write the songs of a nation," he wouldn't give five marks (present valuation) to write its laws. The conviction has been growing on me lately that the gentleman's views must have changed and that the author of the "popular songs" of the day (or night) and of many of the very unpopular laws must be identical. Sometimes, one imagines that, occasionally, he also writes medical articles for the organs of the elite of the profession.

Now, whether you just live, practice and buy gas for your "Lizzie" in Popple Corners, Minn., or overexist, specialize and are "chauffed" around in some intellectual center like Milwaukee, Wis., or Omaha, Neb. (modesty prevents me from referring to Chicago), you *must* have a radio of some kind in your home. If you didn't get it, some other member of the family would have sneaked in at least a one-tube set by this time and, out of that Pandora's box, have come nightly (when the whistles, howls and banshee wails have been subdued) b-e-a-u-t-i-f-u-l songs like "Mean, Mean Mamma, Why Don't You Mean What You Say?" followed immediately by some such classic chanson as:

"Oh, I loved her in the Springtime
And I loved her in the Fall
But, last night, on the old back porch,
I loved her best of all!"

Then, just as you recover your spiritual equilibrium, the gentlemanly, announcer (whose adenoids should receive attention) informs you that the Jit-Jit Orchestra will now favor you with "Dirty Hands and Dirty Face," "You'll Have to Give Me All the Loving You've Got," and "If You Could See What My Gal's Got." Then, for fifteen minutes, there pours into your domicile (if you have a horn; if not, into your ears) a confounded concatenation of crescendo wails, deep grunts and provocative pianoing which make you al-

most wonder if, by living a decent life, you aren't missing something. Jazz makes you feel that way, and maybe you *are*!

Anyhow, if you have been taught that there are some things nice people don't talk about in mixed society, you blush a little behind the ears (if you don't, you really ought to) and register the thought that obviously we, as a people, must be going somewhere at a rapid rate! Perhaps you may also think another minute or two and wonder whether a fast-moving body doesn't usually go *down* hill faster than it makes an ascent?

If you are very precise and "old-fashioned," you may be led to censor the radio and instruct your growing family that certain stations are taboo. If you do that, you will merely add another yard to the breach which already exists between yourself and the rising generation as represented by your offspring. If they don't hear the "Songs and Music of the Nation" while you're around, they most certainly will listen to and enjoy them somewhere else. Your dear little Marie may not hum "Cuddle Uddle Up" in your presence, but, when she goes to Annabelle's house, you ought to hear 'em *enthuse over it*! Annabelle may even sing for Marie that most chaste and beautiful thing, "Where Papa Goes, Mamma Goes Too" or "Though a Hundreds Arms Have Held You." The poetical and musical author of this National favorite has also produced another lilting lyric entitled "Tripping Along." In this, he descants of love, meadows, birds, bees, bungalows, and, ultimately ("in a year or more") babies—all tripping merrily along "on a golden shore"—catfish and cantaloupes, garbage and geraniums, scarlet ladies and wild roses—you get 'em all in a sort of crazy musical chop-sooey every night of your life. It's extremely exciting, if not elevating. Moreover, you don't have to go out and *hunt* this stuff, it comes to you, and yours. Literally,

it's "in the air." The very anemic and paretic writers of those soul-splintering but odorless songs which begged someone to "Pick me up and lay me down" somewhere or other or "Put Me Back on Mammy's Knee" (not Mamie's, please) have either faded away and died nice, natural deaths or developed into the writers of risqué rhymes set to "music" (piano, saxophone, clarinet and drum) by D. Mentia Præcox, *Mus. Doc.*

No one realizes more fully than I do the educative value of the written or "broadcast" word. No one is more willing to admit that the printing press pouring out tons upon tons of printed paper each day or the broadcasting station shooting through the air into tens of thousand of homes, lectures, music, speeches, market quotations and news can be potent forces for good—to a very great extent *are*. But, possessing a reasonable amount of common sense and having traveled quite a number of miles through this vale of tears with ears and eyes wide open, I also have reached the conclusion that perhaps the freedom of the press—and the air—is being abused a trifle and that our children are being served very highly-spiced, indigestible dishes when they ought to be getting crackers and milk; that we ourselves—experienced old rascals that we undoubtedly are—are letting things slip past us into the inner sanctuary, which are not at all conducive to the existence of a good morale, modesty or ordinary morality, where all of these should certainly be found—*chez vous, chez moi*.

For some reason or other, we have let the movies do things to us and to those we are bringing up to carry on the affairs of this old world, which had better have been left undone. I don't know how careful *you* have been in selecting the pictures your children have seen, but I do know that every youngster I am acquainted with has witnessed a number of productions they had much better not have observed; and I am equally certain that, unless the "really worth while" people express their disapproval in no uncertain terms, the broadcasting of objectionable matter will increase and another powerful influence for evil be at work, day and night, to tear down the characters we have honestly endeavored to build up square and true.

It is all very well for the "Harmony Sweeties" to sing that instructive song, "You're the Kind of a Girl That Men Forget," with its warning refrain that, when a man *marries*, he "picks out an old-fashioned girl." But,

when all the rest of the time the glamour of Zippering is dwelt upon and the old-fashioned virtue poked fun at, is it any wonder that the "petting party" is popular or that our youth are *blasé* and without illusions before they reach the mature age of twenty? Give 'em the gas and they'll go—that's all there is to *that*. Might it not then be a rational procedure for us to shut off some of the gas at least, before moral asphyxiation takes place? One must not expect children brought up in a tainted atmosphere to consider the taint objectionable and, if the contamination is gradually increased, it is most likely that, in time, they will prefer fetidity to the odor of roses and violets. And I have reason to believe that I am not, by any means, a voice wailing alone in the wilderness when I remark that, at this precise moment, the rising generation is being gassed—for *revenue*. And we, like a lot of idiots, stand around and witness the exploitation or, what is worse, jump in and take pretty deep breaths of unwholesomeness ourselves.

If I am in error, please correct me. If I am right, use your potential voices and persistently say "STOP!" all the way from Peanuttle to Petropolis. After all, We are "the people" and, if we ruffle our feathers, sharpen our beaks and SCREAM loud enough, the buzzards and chicken-hawks will silently flap away. And when *they* flap, there'll be fewer flappers and less family skeletons. What we want more than anything else in this year of grace is, a thorough sterilizing and then a return to Lavender and Old Lace. Like the Prodigal Son, we have filled our bellies with the husks that the swine do eat, and it's about time to go home. When *Home* means what it *used* to mean and *Mother* again knows the inmost thoughts of her kiddies 'til they leave her to become founders of families, themselves, this great and ever glorious country will stand supreme amongst the nations of the world, BUT, if we don't pretty soon stop the greasing of the skids, there won't be any true homes left and our immediate descendants will go just where several other overindulged and indulgent civilizations went. It's not at all difficult to diagnose the disease. What we want is, to apply promptly the right remedy for the conditions present. *Verbum sapienti satis*—or it ought to be.

* * *

If one only practices Medicine long enough and really thinks as he goes, he will ultimately become very, very 'umble. Things he was sure he knew will become, first, problematical and then, like will-o-the-wisps, dis-

appear in the vortex of new discoveries. I had only just digested the statement from a most eminent authority that our bodies contain twenty-three billions (or was it trillions?) of tiny wet cells and that we were essentially merely an aggregation of batteries, any short-circuiting of which meant a greater or less disaster; when a noted English writer, in an address, candidly informs the world that Medicine cannot be or do anything very definite, because the Physician really knows nothing about the nature of disease or the action of his remedies. Of course, this was said in the most scholarly way and the eminent gentleman used several thousand words in conveying his general idea, but these were the outstanding and staggering facts. *We can't do anything because we know nothing!*

If that isn't a cheering and uplifting thought, I don't know one when I meet it on the boulevard. Am I 'umbled? I'll say I am! So depressed and humiliated that, the very next case of chickenpox I see I'm going to call counsel (several of 'em) to make sure I haven't a case of eroded terminals or a "short" somewhere. And, before I give another purgative, I'll watch its course through a rabbit—maybe, if there's time, through two. Of course, I don't know how the American "authority" found time to count those little wet cells, but I can hazard a guess as to how the English luminary arrived at his conclusions. I can only hope that, being honestly convinced of the futility of his endeavors, he may decide to become an oyster-opener or something really useful. Only the great know their limitations. And that reminds me, there are a few rodents in our garret. Only today, I ran across two case of squirrelitis.

Some months ago, there came from the East, a poor woman with an incurable pulmonary disease. She was most carefully examined by a local specialist, who has proved that he knows something at least about disease of the lungs, and the diagnosis of the Eastern physicians was confirmed. Further, the woman's friends were informed that she had only a few months of life left. The wet cells were run down, the battery exhausted, and, soon, there would be no animating current generated. Then there came to the patient one of those wise people who know it all—yea, and more than that—and suggested a visit to a widely known officialist. As is almost always the case, he found some hemorrhoids, a few too prominent papillæ, inflamed valves, etc., and thereupon assured the patient that all she needed was a correc-

tion of these very debilitating lesions and her recovery was assured. Living with the rectum, he scoffed at the possibility of the lungs being responsible for anything. He operated, collected his fee and—the woman died almost on schedule this morning! Evidently it is not well for the practician to confine his attention to the orifices, important as they are. They lead to or from something.

Within an hour after this case had come to my attention, I was visited by an elderly lady who for years had suffered more or less from an arthritis involving the smaller joints of the extremities. Under treatment, the condition had been arrested; but lately she had suffered from fallen arches and consulted a foot specialist who confined his attention entirely to her feet. He had these x-rayed and very kindly suggested that she take the plates to her doctor, accompanied by a few suggestions from him as to the findings. Said the foot virtuoso: "There are evidences of an osteoarthritis; spurs on the os calcis and displacement of the metatarsals. I suspect a focus of infection and would suggest careful examination of the patient's teeth and tonsils." Had she had either, I would cheerfully have examined them. Her beautiful dentures did not interest me a bit.

Ergo: When you are treating the feet, look also into the mouth before uttering words of wisdom. They will carry more weight.

I have said, I am humble. Heaven knows that I know, I know less than I used to think I did and, yet, I do know one thing definitely: That is, that I cannot satisfactorily treat a disorder of any part of the human body without considering it as a whole. Further, that, after I have gained a reasonably clear idea of the physical condition, I must pay more or less attention to the psychical aspect of the case. I must not only know what I am doing and why I am doing it, but must make my patient clearly understand that I Do Know. If he can give it, I very much need his co-operation. How any physician who radiates distrust of his own carefully thought-out procedures is to attain the confidence of his patients and, so, success, is, I am humble enough to say, entirely beyond my comprehension. Neither can I understand how any real physician can bring himself to imperil the life or wellbeing of a patient by only looking at a piece of him through the wrong end of his mental telescope!

Specialists are necessary; many, many of them are numbered among the most skillful

[Concluded on page 74]

Let's Talk it Over

Dr. Bryce's Talks

The Lesson Learned From an Irregular

I HAD practiced medicine for the best twenty years of my life before I realized that I had been practically throwing my time away, when compared with the financial prosperity of many of my college mates who were engaged in the usual business pursuits that were less exacting than the demands of my profession. I had worked hard and conscientiously and accumulated thousands of dollars of accounts on my books, most of which were not worth trying to collect. I had been trained under the old régime, when the easy going doctors of the southern states were in the habit of booking all accounts and rendering bills about once a year or two, and many of them letting accounts run along indefinitely as long as they were not in actual need of funds. In fact, most physicians of those days allowed tradition and sentiment to govern them more than business principles, and the result was, that our people had never been educated to regard a doctor's bill as a serious obligation, but rather looked upon the doctor as a good Samaritan who found pleasure in binding up their wounds and easing their pains and who looked to Heaven for compensation.

Entering the profession, as I did, immediately at the close of the Civil War, I did not take into consideration the changed conditions that confronted us, and just adopted the customs of the older physicians in the matter of long-standing accounts and very much timidity in presenting them at all. This condition of professional slavery might have lasted indefinitely but for the timely advent of another medical man who held views different from mine and distinctly his own. Our meeting was a little embarrassing at first; for, he was an ethical outlaw, defying our code of ethics, neither asking nor giving quarter to any opponent who questioned his methods. His great sin was, his bold advertising in the daily papers, with his portrait and with wonderful details of his ability; his modern appliances, and his own methods of treating the most formidable diseases.

I had never seen him until, one morning, he walked into my office and, inquiring if I was Dr. Bryce, asked me could I go with him at once to see his wife, who was quite sick.

"My carriage is at your door and I can run you over there and have you back before you can have yours brought around," said he.

As we were entering his carriage, he said: "Doctor, I had not thought how this might look. I am Dr. ———, a graduate of the M. Medical College, but an out and out advertiser, contrary to the letter and spirit of your code, and it might embarrass you to be seen riding with me in my carriage. I would not do this for my right arm."

I was so much struck with the man's candor and fine feelings, that I simply said: "If we differ in a matter of ethics, we both might be honest in our convictions. I am at your service."

I found him a very well posted physician, and his wife a very sick woman with epidemic influenza. I started to discuss the case with him and decide upon the treatment, when he said:

"No, doctor, I did not call you as a consultant, nor relying upon your courtesy for attention to my wife. I wish you to take entire charge of her case and use your own judgment, in which I have implicit confidence."

She made a good recovery in a few weeks, and the doctor called at my office soon after and asked me for my bill. I told him that I had never charged a physician for my services to himself or any member of his family, and I would never do so under any conditions—that it gave me pleasure to help him out. He thanked me and said that he had no right to expect professional courtesy from any physician, as he realized that he had placed himself in an antagonistic attitude toward the profession by flagrantly advertising in the lay papers, and that he was astonished at my independence and liberality towards him.

The man impressed me most favorably on account of his nerve in facing the situation,

his candor in explaining just where he stood, his great care to avoid compromising me with my medical associates, and his obvious ability as a medical practitioner. I said to him:

"Doctor, why don't you quit this advertising and come into fellowship with the rest of us,"

"For the best reason in the world. I should starve to death if I waited for people to discover my merits", he said.

He thanked me again, shook hands and we parted. But, in a few days, he called to see me in my office and handed me a very costly present as a "little honorarium" from his wife, "your grateful patient". While he was sitting there, a young man came in to consult me, and my visitor promptly arose to leave. I do not know what prompted me to do it, but I asked him to come back into my consulting room, if the young man did not object to seeing two of us instead of one. The young man had a slightly ulcerated tonsil, for which I prescribed a light mercurial purge and gave him a gargle of chlorate of potassium and glycerine and told him his trouble didn't amount to anything. He should just gargle freely and he would be all right in a few days. If not, he could call by to see me again. I received two dollars and virtually dismissed the case.

My "irregular" friend had nothing to say until the patient had left; when he asked, if I was as honest with everybody as this?

"Why, certainly", I replied.

"Well, doctor, you are wasting your life", he declared.

"Are you unwilling to learn a valuable lesson from a professional outlaw?" he queried.

I told him that I was always glad to learn of anyone.

"Well, I want you to come to my office next Monday and see just how I receive and treat my patients", he said.

He ran a big advertisement in the Sunday edition of the leading local newspaper, setting forth the dangers of neglecting many of the common ailments, and especially high blood pressure. He knew that we had more quacks and frauds in our own regular ranks than were on the outside, and he knew that high blood pressure was one of the scareheads utilized by the up-to-daters. He realized that much profitable advertising had been done by the profession, without cost to him and all he had to do was, to reach out and pluck their fruit by beating them at their own game.

When I reached his reception rooms (two large ones), they were literally jammed with

a credulous crowd awaiting an audience with the great healer, while a white-uniformed, regulation-trained nurse flitted around here and there among the patient sufferers. To my surprise, the bulk of these patients appeared to be intelligent and substantial people, and not such as could be hoodwinked by extravagant advertisements, and I recognized three very wealthy persons in the lot, and quite a number seemed to have come from out of the city.

I was conducted at once into his private consulting rooms and, being given a chair and a newspaper, was asked to keep my eyes open. I had already opened them and was taking notice that the man was a good psychologist to start with; for, the furnishings of his reception rooms were most elaborate and tasty and at once impressed his callers with the idea that he must be doing a big business. His diplomas were conspicuously displayed upon the walls, while the center tables were spread with the latest magazines. His consulting and operating rooms were simply stunning with their display of every conceivable instrument, apparatus and appliance found in the most up-to-date specialists' offices.

The patients were halted in an anteroom by his lady secretary who informed them that all consultations were five dollars in advance. When this fee was paid, she gave them a receipt and ushered them into the presence of the "specialist". I noticed that no one dead-headed him—he was always five dollars ahead of the game. It is true that all who called did not pay the five dollars and take treatment, but they never got nearer to him than his anteroom, and no time was wasted over them. This of itself was a good lesson for me.

The next thing that claimed my attention was the thorough manner in which he examined every patient that presented himself after having paid the fee. He left no symptom overlooked nor any diagnostic instrument unemployed—he determined to show every patient that no other specialist had ever exhibited such skill or so many brilliant instruments as he had at his command. In this, I saw but little difference between him and many other, perfectly ethical, specialists.

The next thing that opened my eyes was the contrast between my handling of moderate cases and his holding of them and collecting very legitimate fees. A case in point: A middle-aged woman presented herself to him with a moderate pharyngitis of a week's standing. Ordinarily, I would have given her some little liver alternative, a gargle and told her it

was nothing, but to call back in a few days if she did not get along all right. He looked her over very carefully and told her very truthfully that the condition might have come from her stomach, the state of her blood or from catarrhal trouble, and that he would advise her to place herself under observation and treatment until she was well. She promptly entered herself as a patient for a month, as the shortest time to likely get her well, at \$25.00, which she agreed to pay in weekly installments. He gained a satisfied patient and \$30.00 out of a case that would probably have paid me two dollars.

One more observation was, that he never suffered criticism or comment at the hands of the prescription clerk, for he kept a stock of drugs and furnished his patients with all medicines.

"You have no idea", he said, "how many patients change doctors from remarks made concerning prescriptions in the hands of the drug clerks. Then, many patients read their own prescriptions, and form an estimate of your ability by the rare or common character of its ingredients", he added.

I noticed that he made it a point to advise all patients to be treated over a certain period of time, as he diagnosed the gravity of their cases, giving them an approximate time necessary to effect a cure and a price covering such period payable in installments weekly, so that practically all his business was cash as the services were rendered, and he always had quite a good number of patients secured for much work ahead.

In the two hours that I was taking lessons in his office, I saw him take in more money and secure more future business than I would have done in two months, and I learned more good hard business sense than some men acquire in a lifetime.

As I was leaving him, he said: "Doctor, I hope this little call will set you to thinking. You do not have to do an unethical, fraudulent, quackish or uncharitable thing to be well paid for your work. Only use common business sense and, for God's sake! don't get friendly and familiar with your patients.

I did some pretty active thinking on my way home and, by the time that I got back, I was ready for action. I had worked myself up into a thorough state of rebellion, and determined to submit to no more imposition from people seeking my services. I found my good little wife with my overcoat that she had cleaned off with gasoline and she was deftly

stitching on a new velvet collar.

"My dear, I wouldn't worry over fixing that coat," I told her.

"That is no worry—you must have an overcoat and you cannot afford to get a new one this winter."

"I can't?" I snapped out.

"What is the matter, doctor?" she asked.

"Well, my dear, I am going to turn over a new leaf and work for you and the little ones from this hour on", I said.

She still looked mystified and worried at my strange and unusual announcement that I was going to start a revolution.

There were about seven or eight persons waiting in my office for me, but I met them a changed man that morning. The words of my friend were ringing in my ears: "For God's sake don't get friendly and familiar with your patients". Fortunately, the majority of them were new patients and I could start right with them. The three or four old ones were hastily disposed of and requested to be prepared to settle their accounts when they came again. One got angry on the spot and actually paid me fourteen dollars in full and asked for a receipt to date. The rest sulked out to my great pleasure. Of the four new ones, one declined to accept treatment on a pay-as-you-go plan and departed seemingly much ruffled. The other three accepted my advice and were under treatment over periods from three weeks to three months and left me cured and satisfied, having paid me as services were being rendered. It is interesting to note that the only one of the others ever to employ me again was the one who paid me the fourteen dollars on her long standing bill.

A fair number of years have gone by since these scenes have transpired, but I have not forgotten my lesson. I believe in economy and frugality, and my good wife can continue to gasoline my overcoat and revelvet its collar. But, *she does not have to do it*, except for the Salvation Army man.

Dispensing Your Own Medicines

In the matter of dispensing your own medicines, there is much truth in the advantages claimed for so doing. In these days of elegant and accurate active-principle preparations, brought to such high degree of perfection by modern manufacturing chemists, there is much to induce the country doctor and the city specialist to dispense their remedies entirely. There never was a more important therapeutic axiom than "*The smallest dose of the active principles frequently repeated until effect.*"

The indefatigable Abbott, his coworker, Waugh, the great therapist, along with the able men who have succeeded them, have given us a line of preparations so elegant in appearance and so nicely proportioned in dosage as to meet the above requirements. In consequence, prescribing and dispensing become not only a protection against the garrulous druggist and the inquisitive patient, but a pleasure to the dispenser, since he knows that his patient receives exactly what he desires to administer.

The Advertising Doctor

I have alluded to advertising doctors, and have reason to be thankful to one of them for doing me a great favor. The value of sufficient and favorable publicity to the medical man is unquestioned, and the methods, various and devious, for getting in the limelight without getting scorched, are truly ingenious. Summing it all up, taking the very worst and the very best of us, a long experience has convinced me that there is very little difference between the best and the worst of us in the matter of physicians advertising for business. It is only *the way you do it*. And the reason it is so bitterly opposed and condemned (when done by competent and honest physicians) is, because the advertiser becomes a more formidable competitor in exactly the same work done by his so-called ethical brother. I have never resorted at any time to lay advertising; not because I believed it wrong, but because I knew it would lower my standing with the better element of the medical profession, and this I estimated more highly than money.

But, there is a form of advertising that pays abundantly, is clean and honorable and, instead of bringing your name in disfavor, steadily builds you a reputation and adds new and lasting friends to your ever-growing list. I have derived the greatest pleasure, made more delightful acquaintances, and received the greatest emoluments traceable directly to such publicity.

Shall I tell you my secret—my *open sesame*! You, are one of many thousands (Shall I say *fifty thousand*, Dr. A.? [Pretty nearly.—Ed. A.]) reading this page and you are going to form just such an opinion of me as I create for myself by what I say. Now suppose most of these readers take kindly to me—could I wish for a better advertisement!

Your subscription to a live medical journal and your frequent contributions to its pages will introduce you to the best men in our profession and bring you the full reward of real

merit through the only way a reputable doctor should reach his co-workers.

Let's all start the New Year the better way.

C. A. BRYCE

516 N. Tenth St., Richmond, Va.

[On more than one occasion, I have voiced the opinion that the one who writes a paper gets the most good out of it. A well-written paper, that contains useful suggestions and information, will be of service to many of its readers; but, most of all to the writer. He simply *must* formulate his ideas on the subject, so as to express them clearly and lucidly. In order to do that, he must study diligently what has been said before on the subject under consideration. He must consider and think over the experimental evidence that may be available, and must investigate the clinical reports. Ever after, he will keep in mind the characteristics of whatever malady he has been writing about and will continue to keep himself informed on the progress recorded on that particular point.

One thing leads to another; and the first paper will be followed by others on the subject, supplementing and completing the first one. In that way, the fruits of careful and persistent study will become manifest.

More: A medical man who writes occasionally or often for medical journals, will soon become known as a student and observer. He will develop a correspondence with colleagues, which often is very pleasant, he will make friends—by correspondence—and will even enhance his professional standing. In medical society meetings, he will be invited to present papers and to take part in the discussions; then, if he has convinced his colleagues that he has devoted serious study to a certain problem, he will be asked in consultation and, thus, his reputation will grow.

Self-advertising by writing medical papers is legitimate. Also it is a useful and profitable occupation.

You say, you can not write; that you never have written a paper, and never have discussed one? The more's the pity. You are missing a lot. Every man who has passed through a medical-college course *can* write, if he tries. The first paper may not be a classic. Time was, when men like Benjamin Rush, William Osler and many others perpetrated their first medical papers; and, these were not as good as the later ones. The thing is, to try and to go to it. You can not know what you can do until you have tried and tried again. CLINICAL MEDICINE stands ready to act as dry-nurse to

budding young authors (from 25 to 85 years young, or thereabouts). We are always willing to help, to suggest, to edit, to counsel. Let us have your interesting experiences; also the result of your studies. Try it, and we will help all we can.—Ed.]

RECTAL PAPILLITIS

Papillitis, as the name implies, is an inflammation of the anal papillae. Irregular, so-called "Rectal Specialists" have made great capital out of the anal papillae by describing almost every ailment to which the human system is heir, as being due to papillitis. As a result, many of the regulars have almost ignored this frequent, and often distressing, anal condition. Hence, it has not received the consideration it deserves by the regular proctologist and the general surgeon who, unfortunately, too often includes rectal surgery merely as an incidence in his practice. The general practitioner or surgeon rarely diagnose a case of papillitis, but pass it up as a case of skin-tags, venereal warts, etc.

The anal papillae are small triangular, pointed, saw-tooth-like projections, five to fourteen in number, encircling the canal at the linea dentata, or the mucocutaneous juncture. They may be invisible macroscopically, unless hypertrophied. If visible, they are very small and are easily overlooked by other than an experienced observer. Even in a state of moderate hypertrophy, they are more often overlooked, than recognized, by unexperienced examiners. The structures of these minute elevations are chiefly composed of stratified epithelium and connective tissue. Each papilla is supplied with a nerve filament making it very sensitive when inflamed. It also possesses an arteriole for its blood supply. The papillae are tactile organs having a special rectal sense. So, when these papillae are destroyed in large numbers, as in multiple hemorrhoidal operations where much tissue has been destroyed, especially in Whitehead's hemorrhoidal operation, the tactility of the rectum is greatly damaged or entirely destroyed. If the destruction is complete, evacuation will occur without the induction of a desire to stool.

One or more papillae may be inflamed and hypertrophied at the same time, though usually not more than two or three are affected very extensively at one time. There may be several slightly inflamed and elevated. When these papillae become inflamed, their saw-tooth-like form becomes more prominent, their base

more pink in color and their whitish apex directed upward. This upward direction is maintained in moderately large papillae; but, if they become very much elongated and broadened, they lose their tendency to point upward and may assume a round or ribbon shape. They may be caught by the feces and bent downward or variously. If the feces are very hard, their enlargement will be hastened by stretching and traumatizing them until they may become an inch or more in length. When they get into the grasp of the sphincter muscle, owing to the erectile tissue entering into their composition, they retract upward until relieved from the grasp of this muscle. This retraction results in the patient having a feeling in the rectum simulating the crawling of worms. When the inflamed papillae get large enough to protrude, the reddish hue may be increased. As a rule, when protruding, they are not very sensitive and very seldom become ulcerated.

There are a number of conditions that predispose to papillitis. It may be due to a cryptitis, since the close proximity of the papillae to the semilunar valves of the crypts and extension of one to the other is not difficult. It may be caused by traumatism of the papillae, produced by foreign substances, hardened feces, careless returning of protruding hemorrhoids, polypus, procidentia recti, careless massaging of the prostate gland, careless instrumentation, topical application of too strong drugs, especially if continued over a long period of time. Probably, the most frequent cause is a chronic acid discharge from carcinoma, proctitis, ulcers, fissures or any other rectal condition that will cause an acid discharge, or, when the stools are acid over an extensive period of time, sufficient to cause an irritation. In my experience, the irritating discharge due to coloproctitis has been the most frequent aggressor.

The symptoms may easily be confused with those caused by various other anorectal conditions and may require a proctoscopic examination, although an experienced proctologist usually experiences no great difficulty in making a diagnosis without the introduction of the proctoscope. Among the manifestations present, pruritus ani may be mentioned as one of the most persistent and distressing symptoms, varying in severity from a sensation of tickling or pricking, to a severe itching. There may be a crawling sensation, when the hypertrophied papillae are projected from the rectum during the act of defecation. The acid mucus, which is usually present in these cases, causes

an erosion and itching of the perianal skin. Very often, there is an unrelieved feeling after defecation, due to a hypertrophied papilla being caught in the grasp of the sphincter muscle. If the papillae are highly inflamed, there will be more or less sphincter spasm. In nervous patients, the sphincter spasm is often the only symptom, obscuring all of the others. The patient comes to you with an excruciating pain in the rectum that demands immediate relief. One should always suspect papillitis, when, after a defecation, there is a feeling of the rectum not having been completely evacuated. Vesicular discomfort or pain in the bladder, sacrococcygeal pain, are symptoms that point to a papillitis.

A digital examination, which should always be made in all rectal cases before the introduction of a proctoscope is attempted, reveals a hardened substance that is easily differentiated from hemorrhoids or scar tissue, though it may easily be confused with polypus by casual observers. Looking through a proctoscope will reveal one or more elevated, triangular, saw-tooth-like projections at the distal end of the columns of Morgagni, that have a large, reddened base and a small whitish apex, pointing upward. Polypi always have a pediculated base with a large body, that makes it easy to differentiate them from hypertrophied papillae.

The conservation of rectal tissue is of prime importance to every proctologist. The operator that goes into the rectum and wantonly and unnecessarily destroys rectal tissue will, sooner or later, find in the wake of his work many dissatisfied clients that never cease telling their friends about the unsatisfactory work they received. Unfortunately, these miserable folks never die or have any desire to leave the community, but remain to hound you forever. So it behooves us to deal cautiously with rectal tissues if we desire a satisfied clientele. All cases that can be relieved by topical application should be treated in that way, and many of the beginning and mild cases can be cured with topical applications.

If there is much hypertrophy and inflammation, however, it is useless to try topical applications, and surgical procedure should be resorted to at once. All concomitant conditions, especially if they have been factors in the causation of the papillitis, must be relieved.

The operation is simple and can be done under local anesthesia, without the patient losing any time from his vocation. I do not advocate tying the base with a ligature and cutting above it, neither do I advocate the

crushing method nor suturing the mucous membrane over the base to cover up the raw surface. The first is unnecessary and apt to cause pain after the operation, the second is poor rectal surgery, and the third is apt to cause an infection and abscess formation, due to some of the sutures sloughing out, leaving a pocket to accumulate infectious material. In many rectal operations, sutures are rarely of any benefit and often do much harm. All that is needed is, to snip the hypertrophied papilla off at the base, close up. This can be done with a scalpel, scissors or snare. If the papilla is much inflamed and turgid, the snare is preferable, as it will minimize hemorrhage, although I have never seen much hemorrhage resulting from snipping off a papilla. As a precaution, I use a pledget of cotton saturated with one of the thromboplastic preparations and place it on the raw surface. The constriction of the sphincter muscle will hold it in situ after the speculum has been removed. It usually requires from ten to fourteen days for the raw surface to heal, though very little, if any, soreness or inconvenience is experienced by the patient.

In severe papillitis, there is almost always a severe sphincter spasm that is very distressing to the patient, as the pain is excruciating and almost unbearable. In these cases, it is essential to dilate or, better, divide the sphincter. Unless this is done, very little relief will be obtained by removing the diseased papilla. Unless the patient is extremely nervous, a general anesthetic will not be required. This operation can be done very nicely with a local anesthetic. I have tried most of the local anesthetics and found them all fairly good. I am using only butyn, at present. It is harmless, if properly used, acts quickly and the effect lasts over as long a period of time as any of the other local anesthetics with the advantage of acting more quickly. The following case will illustrate a typical case of papillitis with a severe sphincter spasm.

Mr. A., age 47, a farmer, was referred to me by Dr. Carmichael. He gave the history of having had two rectal operations previously. From the symptoms, the first diagnosis was indefinite. The second was, severe papillitis with sphincter spasm, as he gave the typical symptoms of this condition. This farmer lived twelve miles in the country. For several days, he had had some pain, on defecation, that gradually became worse, until, one morning, when he felt a desire to stool, the feces pressing against the inflamed papillae caused an excruciating pain so severe that he could not

defecate. The sphincter algia added to the suffering. The greater the pain, the tighter the contraction of the muscle and, the tighter the contraction of the muscle, the greater the pain. He was hurriedly put in a car and brought to his family physician, Dr. Carmichael, who referred him to me.

He came rushing into the office, groaning like a man having received a severe injury. He stated that he wanted to defecate, but did not think he could stand the pain; he said he believed it would kill him if defecated. I immediately gave him a hypodermic of hyoscine and morphine with cactoid. Before he got the full effect, he was compelled to defecate, as he no longer restrained it. As the hardened feces passed over the inflamed papillae and through the tight sphincter muscle, he screamed almost to the top of his voice.

An examination revealed a tightly contracted sphincter muscle that was in a constant state of spasmodic contraction. Gently forcing the examining finger through the sphincter, revealed some hardened portion that felt not unlike a hypertrophied papilla. The anal tissues and the sphincter muscle were anesthetized with butyn, the sphincter was divided and two rather large, inflamed papillae were removed with Eve's tonsil snare. I never heard from the patient any more until some months afterwards. He informed me that he had not had any more trouble, but had a little hemorrhage after defecation for several days following the operation.

J. W. NIEWEG.

Duncan, Okla.

TELEPATHY

In this age of wonderful discoveries, the flying machines, wireless, radio, and many other things too numerous to mention, I would like to have the readers of *CLINICAL MEDICINE* record their opinion on Telepathy.

About 1885 to '88, I became interested in "suggestive therapeutics", hypnotism and telepathy as aids to physicians, in the treatment of nervous disorders, etc. I supplied myself with books on the subject by recognized authorities, and had considerable success with selected cases. Did any of you ever think that hallucinations might be explained otherwise than as the medical dictionary gives it to us? I lean toward the opinion that, in many of these cases, the hallucinations are but "thought waves" from the brain of another; even as we have all heard, that a violin, on being tuned, will get a response on the same note from

another instrument in a case near by. If this is so with the violin, wireless apparatus, etc., why not in the human brain which is far more delicately constructed?

Such powers are given to many, no one can doubt; a wonderful power for good, but a terrible one in the hands of the man or woman who would use it to do evil or cause another to do evil or really commit a crime. I am convinced that this is done the world over. Not so long ago, we doubted the claim of the many that a wireless message could be sent even a short distance. Now a doubter would be ridiculed. Likewise, remember the motion picture achievements.

In recent years, many of our noted men and women have come out claiming communication with those on "the other side." I believe that this is telepathy pure and simple. I believe the reason why so many of our profession hesitate to discuss this subject, is, that so much of this sort of thing is in the hands of charlatans. But we do know that suggestive methods, in selected cases, are no mean aid to our efforts to restore the mentally ill and those whom we are prone to class "hypochondriacs." Let us hear from many what they think about this matter.

B. MOSBY SMITH.

Los Angeles, Calif.

EXAMINING PATIENTS

The editorial remarks made in the November issue of *CLINICAL MEDICINE* following the letter of G. M. Russell upon "A Chiropractic View" struck me as sensible and timely, but, would they not have been more practical and useful if the writer had gone one step further and have outlined the details to follow in order to make a satisfactory and impressive examination?

Many, and I doubt if I am far amiss in saying, the majority of doctors are quite willing to so order the details of office practice as to gain the favorable opinion and control of their patient, but in the press of work they do not know or overlook the details necessary to this result.

If *CLINICAL MEDICINE* would take the trouble to print this letter and append a concise list of inquiries and examinations to be made, not forgetting the family history, many of the readers would cut it out and have it near at hand for needed reference.

B. SHERWOOD DUNN.

Nice, France, 54, Boul. Victor-Hugo.

[A list of questions and examinations such as our correspondent wishes us to publish in this place can hardly be outlined offhand but requires careful preparation. It may be stated that the questions that are asked of a patient requesting relief are necessarily dependent, more or less, upon the nature of the illness. In case of an injury or of an acute disease, the history-taking may be brief and need concern only those ailments that are directly associated with the existing illness. Any further information that may have a bearing upon the course and the ultimate outcome of the trouble can be secured later on, at leisure.

We are thinking, for instance, of an acute infectious disease, such as scarlet fever, in which we naturally do our best to guard the kidneys against possible injury and to avoid other complications such as they are observed occasionally in the ears, among other organs. If, by any chance, we uncover a history of nephritis in the patient, this, very naturally, has a bearing upon our treatment and possibly upon the prognosis. Similar factors may enter in case of all other acute infectious diseases and they may be of great importance in injuries due to accidents.

If we are consulted by patients suffering from chronic diseases, the questionnaire will necessarily be more detailed, even at the first consultation, and not only the personal history but also the family history will be of importance. The occupation, the habits, the surroundings, environment of the patient and many other factors may have a bearing upon the severity of the illness and, possibly, upon the prognosis. These facts also may influence our treatment inasmuch as, sometimes, they may necessitate makeshifts, even though, as a general rule, makeshifts in treatment should be avoided.

While it is desirable to find out as much as possible about our patients, it is not absolutely necessary to put them through a third degree or through a "painful inquisition" on the first consultation. As a matter of fact, on reviewing our notes, further questions will occur to us of which memoranda can be entered and which can be asked on a later occasion. An important point is, to make careful notes and to review them before the next consultation and, certainly, on the occasion when the patient presents himself again.

As for physical examination, it goes without saying that that should be as complete as possible. It happens frequently enough that the localization of the trouble complained of does not refer to the only organ in the body that is

at fault. Investigations to determine the functioning capacity of all vital organs are essential in any case. Textbooks on diagnosis urge careful examination by inspection, palpation, auscultation, percussion, to which may be added recourse of blood pressure reading and the various laboratory examinations that may be called for. Urinalysis should be made as a matter of routine. The expectoration should be examined whenever the chest organs are at fault. It may be necessary to examine the contents of the stomach after a test meal. An examination of the feces may be called for. X-ray examinations often enable us to arrive at a diagnosis when history and physical examination have left us in doubt.

The important point is, to study the patient as closely as possible—not only physically but mentally, intellectually and psychically. In chronic diseases more than in acute, the psychic reactions are of great importance, and it is necessary to develop in the patient a receptive attitude for the doctor's suggestions, to convince him of the interest that is entertained and of the sincere wish to benefit him. Furthermore, the patient's personal ideas, fears, apprehensions and opinions should be inquired into and should be received sympathetically. While the patient comes to consult the physician, it is our opinion that the physician should consult with the patient, especially if the latter is intelligent. We make it an invariable rule to "talk over" the patient's ailment, his symptoms, his sensations, with him and inquire into his personal ideas regarding them. Much light can be gained by such a procedure.

It is somewhat risky to tie ourselves to a stereotyped formulary of questions. It never pays to do things by rote or by rule of thumb. While a certain schedule should be adhered to (*nota bene: mutatis mutandis*), individualization is essential and very often will cause us to modify the treatment in order to adapt it to the needs of the case in point. We are planning to give an outline of the questions asked for by Doctor Dunn. In the meanwhile, such lists can be found in every textbook on diagnosis and in most textbooks on medicine.—Ed.]

A CHIROPRACTOR HAS THE FLOOR

I would like to answer "A Chiropractic View" by Dr. G. M. Russell of Billings, Mont., which appeared in the November number.

Chiropractors can detect a deviation through

the tissue by palpation of the spinous and transverse processes of each vertebra. The body of the vertebra need move only a very small fraction of an inch to throw the spinous process to one side of the one above and below it, or the transverse process a little higher or lower. It is very hard sometimes to palpate some patients' spines; so, we have resorted to having their spines x-rayed so as to determine the subluxations.

A vertebra can not be put in position with one "thrust." That all depends upon how long the vertebra has been out.

If it has been out only a day one thrust will put it in.

If it has been out one year, it will probably take one hundred adjustments to put it back.

If it has been out ten years, probably five hundred adjustments.

Of course, you have to consider the age of the patient.

The cause of so many adjustments is connected with the muscles, ligaments and cartilages holding to vertebrae. Every adjustment stretches the muscles, ligaments and cartilage on one side and relaxes those on the other. The vertebra has a tendency to work back, therefore continued adjustments will keep it moving in the desired direction. Colds are chiropractically caused by subluxations. [Since when do we differentiate between "chiropractically caused colds" and, say, homeopathic colds or "allopathic" colds or just colds?—Ed.] This disease is caused by subluxations which reduce the vital resistance of the mucous membrane lining the nasal cavities.

Atmospheric changes, exposure of the neck to a draught of cold air, or exposure of the ankles to cold and dampness, changing from a warm to a cold atmosphere suddenly, inhalation of irritant gases and vapors, dust and powders, such as ipecac and tobacco, *irritate the mucous membrane of the nose and produce, reflexly, subluxations in the middle cervical region.* [Italics ours.—Ed.] These lesions produce an impingement of the nerves to the mucous lining of the nose and congestion and increased secretion follow the irritation of the nerves. All acute conditions, such as pneumonia, typhoid fever, scarlet fever, measles and smallpox have a tendency to get well without adjustments. Adjustments are not necessary to move some vertebrae; the relaxation of the muscles while in bed suffices. It takes nature a certain length of time to rid the body of its poisons. But, with the proper adjustments, the patient gets well much sooner. [We

assume that this is the "Philosophy of Chiropractic." It is truly stupendous in its daring disregard of physiologic laws.—Ed.]

To illustrate that impingement upon the nerves causes disease, take a young person that has no heart trouble and press down hard upon the spinous process of the seventh cervical vertebra for a few seconds only and have some one else hold the pulse; you will notice the pulse stop.

By pressure upon the seventh cervical, the heart can be made to beat faster, slower, or stop. The best proof that Chiropractic is right is the fact that our patients get well from chronic troubles, such as stomach trouble, heart trouble, kidney trouble, etc. Ask the Chiropractor's patients.

HOWARD J. HOUSE.

Hollywood, Calif.

DYSMENORRHEA, HARDENED BREASTS, PLURIGLANDULAR TREATMENT

The case here reported is the second one that has come under my care in twenty-five years and, having seen it so rarely, I do not believe it a common experience. Therefore, I pass it on to you to judge of its interest to others. I will be brief.

Miss A., White, aged 20 (virgin; hymen intact) 5 ft. 6 in. in height, weight 150 lbs., well developed. At first glance, one would not think her in bad health, as she had good color in her cheeks and a clear skin, almost normal save a peculiar greenish tint beneath the cream white. But her neck had the age wrinkles of a person of 40 and a deep, tawny, loose texture to the skin, a state that I have found often in beginning thyroid and parathyroid disease.

Physical examination: Prolapsed stomach to navel. Mouth breather, nasal fossa choked by adenoids, tonsils enlarged and inflamed, ears with inflamed drums, external meatus very sore and covered by small ulcerations, hearing markedly impaired, slight hypertrophy of heart, liver enlarged, urine some bacteria, much indican, phosphates in excess, urea 2.1%, sp. gravity 1.018; great pain on pressure along 5-6-7 dorsal vertebrae, rectum loaded with fecal matter. Blood count: white, 7,600; red, 4,430,000; hemogl., 78%; color index, 0.886. Different: small lymphoc., 31%; large lymphoc., 4%; large mononuc., 0; pol. neutrophil., 64%; pol. eosinoph., 1%; poly. mast cells, 0.

The patient had presented herself for treatment for her persistent constipation, because

she did not want to be operated on for appendicitis, which another physician had declared to be necessary.

There was no warrant for such an operation, as there was not even a sore spot in the whole intestinal tract.

To this point, there is nothing extraordinary in this case over the common run of cases of long continued wrong dietetics.

Here is the peculiarity: She complained of very great dysmenorrhea, but examination through the rectum revealed no abnormality or tenderness of the parts and, as there was no discharge from the vagina, nor any abnormality save the painful beginning of each menstrial flow, I did not feel warranted in breaking the hymen for further examination of the parts. However, through the rectum, I found that I could detect a difference in the size of the ovaries which, I believed, I could feel when the nurse made strong pressure on the abdominal walls. I am not unaware of the smile that will flit over the faces of some of the wise ones when they read the latter statement. At any rate, when I now examined the mammae to see if there might be any unusual condition that might be connected with my supposed finding of a small ovary, I was astonished to find both glands as hard as those of a neglected obstetrical case. Had the usual axiom (any hard lump in a woman's breast is cancer), so favorite with many practitioners, been applied here, we should have hurried her to a surgeon and removed both breasts. As I do not believe that that statement is warranted in the majority of cases, I gave my diagnosis as follows:

Hypothyroid and hypoparathyroidism; adrenal action impaired as evidenced by atonic constipation and finding of "White Line" reflex; and, finally, infantile right ovary.

I put her on parathyroid—thyroid—adrenal and ovarian extracts. For drugs, I employed digestants, hepatic stimulants and laxatives with the indicated remedies to aid menstruation as the periods approached. My usual routine of massage, lavage and colon flushings was followed in this case.

At the end of three months' daily treatments, the summing up found the patient relieved greatly of most of the ear, nose and sore spinal conditions. She no longer breathed through her mouth and the bowels were fairly regular; but the hard mammae had changed very little, despite the daily manipulation.

I determined to change the gland formula. I stopped the thyroid-parathyroid-mammary-ovarian combination and substituted placental-

mammary, with adrenal (whole gland). A slight change set in and has gradually continued in the consistency of the glands. The right gland became soft at ten weeks and now, at the end of twelve weeks, the left gland is comparatively soft. No doubt, both breasts will become normal in a few weeks more.

Question—why did the placental-mammary extract prove more effective in this virgin case?

I used the placental-mammary extract in a very hard case of menorrhagia I cured last year; which case has steadily gone on to robust health; but the patient is still taking placental-mammary extract in small dosage, as a precautionary measure.

F. G. DE STONE.

Turlock, Calif.

QUIBBLING PERSONALITIES CONDEMNED

A basic principle must be considered before entering into the heart of this letter. It was Humboldt who said, "The greatest miracle of the universe is the invariableness of law. Under like conditions, a like result must follow, and upon this rock is the faith of the scientists built." Things in medicine that do not symbolize in the clock, the balance, or the foot-rule can not be classified as true science. As long as tradition, inductive reasoning, intuition, art and skill make up the greater part of a physician's armamentarium, we can not consider ourselves as true scientists. In fact, science seems to be the weakest link in medical knowledge, outside of physiology, anatomy, chemistry, and electrical phenomena. The mystery of disease-causes and of treating patients, so that they can get well, is chaos.

There is no trouble between professional men as long as they stand on truly scientific ground; because "under like conditions a like result must follow." Surgery does not provoke animosity, because you need only stay within your scientific knowledge of physiology and anatomy, with good judgment, to attain results, and all surgeons with mechanical skill and courage get similar results. Jealousies, however, among the lesser lights do play an important part in creating strife and animosity in surgery as well as in internal medicine.

When it comes to Internal Medicine, Mechanical and Electrical Therapeutics, we all have opinions of our own, and these seem to differ as widely as do religious opinions. We have many cults and many sects. Every mule accuses the other of having long ears and tries

to legislate him out of existence on account of his defect. If it were not so serious, it would be ludicrous.

When a man does a little thinking of his own which, naturally, does not coincide with everybody else's, he becomes the butt of the others, and ostracism is invoked if he gets outside of beaten paths. History does not repeat itself; it is simply a continuous vaudeville performance. The scientific truths abide in spite of all opposition, and all the rest falls by the wayside. Traditional stuff often gets so deeply rooted in the minds of some that a cyclone cannot eliminate it, even though there is no vestige of science about it.

No man is a success in anything unless he succeeds. A physician builds his practice on his successes and not on his failures. Strange as it might seem, only successful men are condemned. Men that are not doing anything are left alone. Why are we not more tolerant with each other and stop quibbling? Jealousies and a "Holier than Thou" spirit are the cause of contention and often bring us in bad repute with the people whom we are trying to serve. The people will have a voice in their own welfare, and they seek it to the best of *their* understanding, in spite of all the legislation in kingdom come. Unless you can offer something that appeals to their understanding and unless your success as a physician in the community warrants *their* confidence, you are simply passed by. You can fool some of the people some of the time, some of the people all of the time, but you can not fool all of the people all of the time.

My only creed in the practice of medicine is, to uphold the highest standards of our medical colleges. Let every man or woman who practices the art and science of healing be obliged to study the same fundamental basic sciences, and give proof of having a good character. This creed should be sufficient to unite the whole medical profession with a willingness to cooperate with each other, in spite of many differences we might hold as to therapeutic methods and beliefs. I am sure, the *populus* would hold the profession in much higher esteem, and the old Doctor in the community would come to his own again. This could be brought about sooner by deputizing a qualified posse to go gunning for political gangsters who have nothing else to do but to seek positions by legislation instead of making good, honest efforts to build up a practice by merit.

As long as we are not dealing with a true science, we had better not do to much condemning of any cults. We had better remove

the beam out of our own eyes before removing the mote from another. They all seem to thrive and must have *some* good in their line. Why not make honest investigation and use anything good, no matter where it may be found?

J. M. HEIMBACH.

Kane, Pa.

[There can be no objection to Doctor Heimbach's assertion that only science is definite and that art is largely a matter of opinion which may vary according to personal predilections. Even science, though, does not seem to be so very definite; at least, science as it is understood generally. It also depends largely upon what is believed to have been demonstrated as fact. Often, no doubt, facts are as observed. In other instances, however, observations (tinged with subjective bias) may simulate facts when actually no warrant exists.

The important point is that those in authority (meaning, those in power) are not justified in setting up their own brand of "science" as exclusively correct and in condemning facts determined by outsiders as spurious. An honest, impartial investigation of all problems advanced in good faith would aid in assuring medical progress and, no less, in lessening the danger from quack notions, by throwing the light of reason upon them. This impartial investigation, though, be it said, must actually be impartial. "Science" has decreed, for instance, that drugs that cause no visible effects in experiment animals are inert and useless. Clinical experience and observation have proved this position to be erroneous. The methods of investigation must be truly unobjectionable and not arranged in accordance with preconceived ideas.

As to the "Holier than Thou" spirit—the world's progress has been retarded by it, in many ways, to a deplorable extent. Much could be said about it. At any rate, it should be eschewed and eradicated.

Doctor Heimbach's demand, that every man or woman who wishes to practice the art and science of healing should be obliged to study the same fundamental basic sciences and give proof of having good character, truly represents the irreducible minimum. Less than that could hardly be demanded; less should not be accepted. Even now, a movement is on foot looking to the establishment of such regulations. Everybody who offers his, or her, services to the sick, should qualify by passing the same examination, after having studied at least the fundamental sciences (as

Dr. Heimbach puts it) with credit. Equal privileges entail equal duties. Anything less than that is undemocratic, un-American, unfair. Moreover, it entails great danger to the sick.—Ed.]

A GOOD MAN FOR A GOOD JOB

I have just received a letter from an old friend of mine, whom I have known for many years and who now, on account of the slackening of activity in the business in which he has been engaged for many years, desires to make a new connection. My friend is not only a physician, but an experienced business man. During the war, he was commandant of one of our large camps for the specialized training of a certain type of soldier. At the close of the war he retired from the Army with the grade of Colonel.

This man has executive ability of very unusual type, and he should be of extreme value to someone. His special interest is in health work, and he would like to make a connection where he can follow this bent, either as superintendent of a hospital or to take charge of the sanitary interests of some municipality or large commercial corporation. Knowing my friend's unusual abilities in this direction, I am bringing this to the attention of the readers of CLINICAL MEDICINE. If any of you know of an opening for a man of this type, won't you write direct to me or to the editor of THE AMERICAN JOURNAL OF CLINICAL MEDICINE. We will put you in touch with this man.

A. S. BURDICK.

Chicago, Ill.

AN OPEN LOCATION

At the request of the general public here, I am writing this letter asking that you give it a place in the Journal where it will be seen by the most of the medical profession. The people here need and want a practicing physician to locate in general practice. We need such a man and will give him all the support that we have to offer. I have been here almost five years, practicing veterinary medicine, and have done as well as I expected to do. Any one interested, may write to me and I will answer all inquiries concerning this opportunity.

Nevinville is an inland town. We have two general stores; two garages; bank; post office; barber shop; and a beautiful consoli-

dated school building, teaching twelve grades. We get one mail daily, by way of Cromwell, Iowa. We are fifteen miles from Creston, a city of eight thousand people; eight miles from Orient, small town; fifteen miles from Fontanelle, a small town; and thirty miles from Corning, the county seat. Excepting east and south-east, the territory is almost unlimited. The people are prosperous farmers, mostly Bohemians.

We need a doctor and will try and give a man a square deal and all the support we can. Please write

CHAS. FEURING, D. D. M.

Nevinville, Iowa.

A NEW DEPARTMENT

The editorial, "Renew Your Subscription," in the December number, contains the following: "If CLINICAL MEDICINE serves you, if you have found instruction, useful hints, and entertainment in its pages, it is only fair for you to renew your subscription".

The allusion to *entertainment* brings some thoughts to the surface.

Not that it would seem advisable to convert CLINICAL MEDICINE into a veritable *multum in parvo*; but, since every busy doctor must at times seek recreation, would not a small department to that end find favor in the Journal?

By this, I mean a department conducted in the interest of the doctor's recreational hours.

Many of us do not feel that we can afford to subscribe to the host of journals devoted to recreation. So, why not make the one journal a man feels that he must take cover business and pleasure in the one publication, since "all work and no play makes Jack a dull boy"?

Some of us follow the camera, other the rod and gun, or camping and canoeing, while others aspire to modern auto camping and touring.

Would not a department conducted in the interest of the doctor's play time, be a worthwhile addition to any magazine?

This would also open the advertising pages to firms who deal in sporting and outing goods; with the special attraction of their fitness for the doctor's needs on his vacation.

DR. F. N. RICHARDSON,

Cleveland, Ohio.

What Others are Doing

POSTGRADUATE COURSES The Brooklyn Extension Plan

How the medical profession of Long Island, New York, has succeeded in making its dream come true, of creating opportunities for post-graduate study available to all its practitioners, is told interestingly and impressively in the October '23 issue of the *Long Island Medical Journal* which is the official organ of the Associated Physicians of Long Island. This dream had been maintained for many years and the other counties always had looked to Kings in view of the fact that Brooklyn, with its population of two million, had ample facilities for creating the organization and, indeed, Brooklyn has long been prepared and ready for any agency that might weld together the educational units that are available. A great many large, well-equipped and well-staffed hospitals have been doing their best to broadcast medical education by opening up operative clinics and ward rounds to anyone willing to attend. Systematic instruction of assistants and internes has contributed in no small way toward the maintenance of high standards of medical practice.

The library of the Medical Society of the County of Kings—one of the largest medical libraries in this country—has always been an important factor in the educational life of the community.

The Long Island College Hospital, which is the only medical college on Long Island, offered its first series of graduate courses in 1921. Intensive courses were given in both, clinical and preclinical departments, in the Spring of 1921 and again in 1922. The results were so gratifying that the Board of Regents formally established a graduate department, and the faculty hoped that this was a good beginning for a real Graduate School of Medicine. There should be a graduate school on Long Island.

In 1922, when the medical society of the County of Kings celebrated its one hundredth anniversary, there seemed to be no better way to mark the occasion than by a demonstration of public service, it being held that continuous education of the practicing physician

would be the greatest possible contribution that could be made in the cause of public health. In considering this matter, the president, Dr. Frank D. Jennings, realized the difficulty attending the carefully-arranged conventional programs of the society which fostered the latest in progressive medicine but failed to deal with the common ordinary problems of everyday practice.

It was then decided to give to the general practitioner that which he himself thought he needed most. The practical lecture series was arranged and proved a great success.

The constantly large attendance at that lecture series was, of course, excellent evidence that the medical profession of Brooklyn was eager for graduate education. As there was a distinct feeling that by careful attention to small groups the advantages of the lecture series could be made permanent, besides teaching seemed to be the logical extension of the idea. The solution of the problem could be found only in a proper correlation of all the teaching units available.

If public service was to be the watchword of the medical profession, then medical education was an absolute necessity. Use of clinical material for student teaching was a corollary. Organization only was needed. The County Society, representing organized medicine, felt that it could easily take the initiative. Effort was made to survey all the educational facilities of the city and, with groups here and there, tentative plans were discussed and worked out. A fortuitous circumstance at this time was the keen interest of the Commissioner of Public Welfare, Hon. Bird S. Coler, who offered to open the wards of the departmental hospitals in Brooklyn for teaching purposes.

At a meeting of the medical society, it was concluded that close affiliation of an active county medical society with a Class A medical school would be an ideal solution of the problem. The teaching equipment of the medical school, with its experience in the undergraduate field, would, of course, be of great value in any educational movement. The County Society, as the basic unit of organized medicine, representing all the active hospital

groups of the city, was a civic force charged with responsibility for the protection of public health. Assuming that all the clinical material of the community should be used for student teaching, only the County Society could organize for teaching those hospitals not an integral part of the college system, where there were many willing and able teachers.

The society decided that it may properly undertake graduate teaching as one of its functions and the Joint Committee on Graduate Education was organized which directed the graduate courses for which most of the hospitals and kindred institutions in Long Island cooperated.

While no clinics are held in the usual sense, the teaching, which is given to small groups of practitioner-students, is, nevertheless, decidedly clinical, in that the student sees the patient, and is given an opportunity to assure himself of the soundness of the teaching. Groups are limited to eight, so as not to lose that invaluable personal contact of the student with the teacher. Almost all of the Extension Courses were given in the late afternoon, between four and six, for it was felt that this was the most convenient hour for most doctors. In all, thirty-four courses were announced—seven intensive courses, and twenty-seven extension courses.

The Intensive Courses were all given at the College, and were designed to meet the needs of those men who were able to devote four to ten hours a week for six weeks in the study of the particular problem in which they were interested. By title, these courses were (1) Tuberculosis, Syphilis, Focal Infections, Fevers; (2) Clinical Laboratory Work; (3) Diseases of the Kidney, Heart and Blood Vessels; (4) Disease of the Blood, Spleen, Pancreas and Liver; (5) Diseases of the Stomach and Bowel; (6) Congenital Syphilis; and (7) Applied Anatomy. A fee determined on the basis of the most of material and special equipment was charged for these courses.

The Extension Courses were practical courses carefully planned for those doctors who had little time to study outside the routine of practice. These courses consisted of eight periods—one hour a week for eight weeks. There were no fees for these periods. By title, these courses were (1) Diseases of the Heart—two courses; (2) Diseases of the Spleen, Pancreas, Lymph Glands and Blood; (3) Arteriosclerosis; (4) Diseases of the Blood; (5) Diseases of the Heart and Blood Vessels; (6) Clinical Pathology—two courses; (7) Disease of the Lungs. In Surgery, there

were (1) Diseases of the Thyroid Gland, Practical Management and Surgical Treatment; (2) Vascular Diseases of the Lower Extremity; (3) Traumatic Surgery, Management of Common Fractures and Joint Injuries; (4) Empyema; (5) the Acute Abdomen; (6) the Chronic Abdomen; (7) Diseases of the Rectum; and (8) Diagnosis of Surgical Diseases of the Abdomen. In Obstetrics, there were two (1) Prenatal Care; and (2) Manikin Instruction.

In Pediatrics, (1) Pulmonary and Allied Forms of Tuberculosis; (2) Contagious Diseases; (3) Problems Concerning the Baby During its First Year of Life; (4) Infant Feeding.

In Genitourinary Diseases, there was one course entitled Urology for the General Practitioner.

A laboratory course on Obstetrical and Gynecological Pathology completed the Extension Series.

The reaction of the medical profession was very satisfactory. More than one hundred and seventy courses were given—some men taking two, three and four courses.

A large number of physicians then have been afforded an opportunity to receive post-graduate instruction without leaving their homes or their practices. This is decidedly an innovation, and strikes deeply to the heart of the problem. A tremendous number of physicians have attended a weekly lecture for twenty weeks, because the material was clinical, offered at a convenient time, and of a practical nature.

THE PRACTICAL LECTURE SERIES

In an article contained in the Graduate Education Number of the *Long Island Medical Journal*, from which the preceding excerpts were taken, Dr. Thurston S. Welton, Chairman of the Clinical Committee, discusses the subject at issue in greater detail. The Practical Lecture Series owe their existence to the fact that, after graduation or after internship, the majority of physicians enter the practice of medicine and then are so fully occupied with their professional duties that real study ends. "Occasional reading of medical journals, a few books, attendance at society meetings, spells all that makes for keeping abreast of the times and advancement." This being the case, it was necessary to find a way to secure for the practicing physicians that progressive education which must be part of the doctor's daily life, while yet the two may

not interfere one with the other.

Accordingly, the lecture courses were inaugurated as already described. At first, it was decided to hold twenty lectures a year, each one on a Friday afternoon, at five p. m., each lecture to last one hour. Each speaker invited to appear was asked not to read a formal paper: he was to talk. There would be no discussion, but, on occasions, time would be allowed for questions from the floor. The lectures must be of a practical nature, something to interest the greater number of physicians.

The preliminary announcement of the plan was supplemented by a post card arriving the day prior to the lecture and reminding the physician of its occurrence, also naming speaker and subject.

From the beginning, these practical lectures have been a success. From 400 to 700 have attended each and everyone of them. It became necessary for the police to provide regular parking space for the hundreds of doctors' automobiles that suddenly appeared in the neighborhood of the Library Building about five o'clock. A special traffic officer is detailed every week to attend to this work.

From those who have observed and studied the audiences from week to week, it became apparent that almost every doctor in the county, at some time, had attended these lectures. A subject one week would appeal to a certain group, while the following week an entirely new group, for the most part, attended. And so it has gone.

No man has read a formal paper. Some speakers have asked for questions. Most of the men have illustrated their talk with lantern slides. One man used the vehicle of the moving-picture. Another speaker was given several patients from the city hospitals with all history findings and conducted a clinic. One speaker arranged the stage as a doctor's office and, using a professional model, gave a talk on office gynecology. A professor of obstetrics gave his lecture arrayed in the operating-gown and wearing a rubber glove. "Gentlemen, this is a surgical rubber glove!" he announced and then proceeded to pound in the necessity of surgical cleanliness in obstetrics. A gentleman from Boston decked a table on the platform with many foodstuffs and gave a practical demonstration of the quantity of sugar in each article of food, in a talk on "Diabetes." The head of the de-

partment of a New York College had printed a small booklet giving in detailed outline his lecture. And so it has gone—some talks have been more instructive and interesting than others, but the general level has been high and at each and every meeting each one in the audience came away with something worth while. They have always been practical.

That the medical profession is eager for real, authoritative information, given by the leaders of the profession is evidenced by the enthusiastic response in attendance at each talk.

Playthings for Babies

"Some people may not think their babies are descended from monkeys, and I do not propose to argue that question. It is not necessary to do so. All will agree with me that imitation is a characteristic trait of the monkey and that a conspicuous trait of all children is the tendency to imitate their elders. That is as far as we need go. When a mother, in changing her baby's clothes, holds one pin in her mouth and lays others down within the baby's reach, she is unwittingly, but none the less effectively, teaching that child to put safety pins in his mouth." Naturally one outcome of this dangerous practice is the swallowing of the pin or its disappearance into the bronchial tubes. Dr. Chevalier Jackson, in the December issue of *Hygeia* asserts that the bronchoscopic clinic in Philadelphia has nearly one hundred pins that have been removed from the lungs, throats or stomachs of babies. In addition to pins there are hundreds of other articles, including tacks, peanuts (sometimes from peanut candy which when the candy is dissolved leaves the peanut in the baby's mouth from whence it may be breathed into the lungs), small toys such as jacks, whistles and tiny animals, seeds, kernels, buttons, beads, coins and bones or fragments of bones, that inevitably go into baby's mouth if they once get into his hands. Accidents from the breathing in of these small articles are far more common than people realize and are naturally highly dangerous. A bronchoscopic clinic, of which there is at least one in every large and many small cities, specializes in the removal of foreign bodies from the lungs or tubes that lead to them. But prevention is worth a great deal of cure—do not let the baby have such small articles to play with—the death rate is high.

Among the Books

VAUGHAN: "EPIDEMIOLOGY AND PUBLIC HEALTH"

Epidemiology and Public Health. A Text and Reference Book for Physicians, Medical Students and Health Workers. In Three Volumes. By Victor C. Vaughan, M.D., LL.D. Vol. I. Respiratory Infections. St. Louis: C. V. Mosby Company. 1922. \$9.00.

Doctor Vaughan's work is not merely a textbook of epidemiology; it is much rather an intensive study of the causes, characteristics and treatment of communicable diseases. The study goes much further than the individual aspects of the patient. It is collective, including an inquiry as to the manner in which communities, states and nations are affected by communicable diseases, how they arise and are spread and how they should be dealt with in order to diminish the harm and injury that they accomplish.

Sometimes we feel pretty chesty about our (at least relative) conquest of infectious diseases. Typhoid fever, diphtheria, smallpox, cholera infantum and other epidemic maladies, notably tuberculosis, have had their mortality so greatly reduced that we are talking glibly about the ultimate, definite and complete removal of these scourges from the face of the earth. Doctor Vaughan reminds us that we have reason to be rather humble in our self-congratulation. The experiences of but a few years ago, during the world-wide epidemic of influenza and with respect to those epidemics of measles, chicken pox and other infectious diseases that swept almost all of our military camps during the War, tend to show that much, very much, remains to be done.

We are interested in Doctor Vaughan's classification of the infectious diseases as *albuminal diseases*. This is, of course, in view of the fact that the action of pathogenic bacteria is essentially due to a split-protein intoxication.

Volume I of this beautiful work deals with the respiratory infections. Volume II takes up the nutritional disorders (scurvy, beriberi, pellagra, etc.), the alimentary infections (botulism, cholera infantum, the typhoid fevers, etc.) and the percutaneous infections, such as malaria, yellow fever, dengue, etc. The third volume has not yet come to our

attention and we shall look forward to its appearance with great interest.

EISENBERG: "PRINCIPLES OF BACTERIOLOGY"

Principles of Bacteriology. By Arthur A. Eisenberg, M.D. Second Edition. St. Louis: C. V. Mosby Co. 1923. Price \$2.25.

Some of the important points in which this second edition of Eisenberg's book differs from the first are, among others, the discussions of the following:

Discussion of the D'Hérèlle's phenomenon—one of the most important contributions since the days of Ehrlich and Bordet.

Description of the newer precipitation and flocculation tests for the diagnosis of syphilis—Meinicke, Sachs-Georgi, Kahn and Dold tests.

Detailed description of taking blood cultures with the Keidel blood culture medium tubes.

Detailed description of the pre-transfusion blood tests, including the discussion of blood typing of Jansky and Moss.

More information about anaphylaxis, to the diagnosis of hayfever and bronchial asthma.

It is evident, therefore, that this little book, with its concise and practical discussions, contains just what the general practitioner needs for his information which he would find some difficulty in securing from highly technical textbooks or journal articles.

"MEDICAL CLINICS OF NORTH AMERICA"

The November, 1923, issue of "The Medical Clinics of North America" is the Boston number. It contains clinics from the Peter Bent Brigham Hospital, (Dr. Christian); the New England Deaconess Hospital, (Dr. Joslin); the Boston City Hospital, (Dr. Locke); The Massachusetts General Hospital, (Dr. Minot); The Evans Memorial Hospital, (Dr. McClure). Most clinics are represented by several authors.

As to subjects, we read about Late Appearing Clubbed Fingers with Congenital Heart Defects; about Diabetes, its complications, and their treatment with insulin; osteomalacia,

migraine and headache, gall-stones and many other subjects.

"The Medical Clinics of North America" is a bi-monthly publication issued by the W. B. Saunders Company of Philadelphia. The subscription price for the six numbers is \$12.00. The "clinics" are carefully selected, instructively presented, and of as great value to the general practitioner as they are to the student.

VALLERY-RADOT: "LIFE OF PASTEUR"

The Life of Pasteur. By Rene Vallery-Radot. Translated from the French by Mrs. R. L. Devonshire. With an Introduction by Sir William Osler, M.D. New York: Doubleday, Page & Company. 1920. \$3.00.

We paid our tribute to the memory of Louis Pasteur in commemoration of the centenary of his birth, in the December, 1922, issue of CLINICAL MEDICINE. It is not too late, however, to call attention to a biography which has been characterized as the greatest biography of our age and whose author, Vallery-Radot, was unusually qualified for the work. The translation is very well done and the book is a valuable addition to the history of science as it is told in the form of biographies of great scientists.

"COLLECTED STUDIES"

Collected Studies from the Bureau of Laboratories, City of New York. Dr. William H. Park, Director. Vol. IX, 1916-1919. Department of Health, City of New York. Royal S. Copeland, M.D., Commissioner.

This is the first volume of Collected Studies from the Bureau of Laboratories, City of New York, since 1915. The papers included in it have all appeared since the end of 1919. They are grouped in the following subjects: "Applied Therapy and Preventive Medicine" (eleven papers); "Bacteriology" (fourteen papers); "Chemistry" (three papers); "Diagnosis" (eight papers); "Etiology" (three papers); "Immunity" (four papers); "Microbial Studies of Sanitary Problems" (nine papers); "Physiology" (two papers); "Serology" (four papers).

PETERS: "CHEMISTRY FOR NURSES"

A Textbook of Chemistry for Nurses. By Fredus N. Peters, A. M., Ph.D. Illustrated. Second Edition. St. Louis: C. V. Mosby Co. 1923. Price \$2.50.

The increasing importance of chemistry, or, rather, the fact that the general importance of chemistry is being realized more fully, makes

a work like the present one especially acceptable. It is simply written, avoiding, as much as possible, the technical. It can be understood by all intelligent people and should really receive wider distribution than only among nurses.

REED: "OBSTETRICS FOR NURSES"

Obstetrics for Nurses. By Charles B. Reed, M.D. Illustrated. St. Louis: C. V. Mosby Co. 1923. Price \$3.50.

Here is a splendid outline of obstetrics in as far as nurses should be familiar with it.

FISHER: "SENILE CATARACT"

Senile Cataract. Methods of Operating. By W. A. Fisher, M.D. With the collaboration of Prof. E. Fuchs, Prof. I. Barraquer, Lt. Col. Henry Smith, Dr. H. T. Holland, Dr. John Westley. Illustrated. Published by Chicago Eye, Ear, Nose and Throat College, Chicago, Ill.

This little book contains descriptions of the methods which are employed by some of the world's greatest ophthalmologists for carrying out the cataract operation. Needless to say, it must be of great interest to ophthalmologists.

GREEN & EWING: "OPTOTYPES"

Optotypes Consisting of Test-Letters and Pictographs for Measuring the Acuteness of Vision. By John Green, M. D., and A. E. Ewing, M.D. With thirty-five engraved plates. St. Louis: C. V. Mosby Co. 1923.

Here is an interesting collection of test letters and pictographs designed for testing the visual recognition of form by young children and by illiterates. The charts are conveniently punched for binding and for hanging up on the walls.

KELLOGG: "THE NEW DIETETICS"

The New Dietetics. A Guide to Scientific Feeding in Health and Disease. By John Harvey Kellogg. Revised Edition. Battle Creek, Mich.: The Modern Medicine Publishing Co. 1923. Price \$4.75.

Doctor Kellogg's researches in food physiology and pathology and, consequently, in dietetics, have occupied a great many years of his long life. In some ways, he has been an innovator; in many respects, his ideas were original. If his experiences have caused him to incline to a dietary that is largely vegetable in nature, the conclusion was arrived at quite logically.

Doctor Kellogg's textbook is just what we would expect; scholarly, based upon the most

authoritative experimental and clinical results obtainable, as complete as it can be made and replete with interesting practical information. The discussion of the various food elements and those food substances that supply them is especially interesting. We have found the chapter on Food Salts (pp. 160 to 191) quite enlightening. In speaking of stimulants like tea, coffee, tobacco, etc., the author's individual bias can readily be seen, although he manifestly attempts to be strictly impartial.

The chapter on intestinal toxemia (auto-intoxication) is a very important one and will repay study.

"The New Dietetics" is not at all stereotyped or conventional. It presents new viewpoints, and the treatment of the subject matter is different from that of many textbooks on dietetics; the discussions are attractive and impressive. We have consulted the book repeatedly with great benefit and, invariably, were led from the bit of information that we had looked for to browse further and read other portions for their own sake.

THOMA: "TEETH, DIET AND HEALTH"

Teeth, Diet and Health. By Kurt H. Thoma, D.M.D. Illustrated. New York: The Century Co. 1923. Price \$2.00.

Here is an authoritative little book written in popular language and dealing with one of the most important problems that are associated with the care of growing children. It is a book that can be given to our patients for their own study, or that can be used by the doctor in preparing his instructive talks to his patients or to larger audiences.

It is fortunate and a matter of progress that dentistry, more particularly preventive dentistry, has become more closely associated with preventive medicine and that, in this manner, dentistry has assumed its rightful place as a special branch of medicine. Association between physician and dentist should be close and both should consult together for the benefit of many of their clients. Their cooperation can be of inestimable benefit to their patients.

The information contained in Doctor Thoma's book is designedly called authoritative. Moreover, it is presented in an acceptable manner and will be appreciated by those who are wise enough to wish to preserve their own health and that of their children.

BRUBAKER: "HUMAN PHYSIOLOGY"

A Textbook of Human Physiology Includ-

ing a Section on Physiologic Apparatus. By Albert P. Brubaker, M.D. Seventh Edition, Revised and Enlarged. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1922. Price —.

It is a truism that pathology can be understood only through a full understanding of physiology—seeing that pathology is actually abnormal, or disturbed, physiology. For that reason, it is the part of wisdom to refresh our memories as to physiological processes, by frequent consultation of a standard textbook on the subject. Brubaker's is such a standard. It is advisable to procure new editions from time to time in order to keep informed of the progress made in physiology as well as in the other branches of medical sciences.

HILL: "PROCTOLOGY"

A Manual of Proctology. By T. Chittenden Hill, M.D. Illustrated. Philadelphia: Lea & Febiger. 1923. Price \$3.25.

It is a fact that the general practitioner is prone to remain satisfied with his patient's self diagnosis of "piles" for everything that may be wrong at the outlet of the intestinal tract. It is equally true that this does not only cause hardship to many patients who fail to receive relief but that the physician himself "loses out" in many ways when he might earn his patient's lasting gratitude and many fees paid willingly. Doctor Hill has come to the conclusion that most mistakes arising out of the routine treatment of "piles" by means of an ointment or suppository are due to the practitioner's failure to make a routine examination of his rectal patients rather than to his lack of knowledge.

To make a rectal examination is rather unpleasant and cumbersome and most patients object to it. Still, if the matter is discussed with them calmly, they may soon be brought to see its necessity and, undoubtedly, the custom of making rectal examinations will enable the physician to discover disease conditions that will explain why many patients do not recover their health more promptly.

Doctor Hill's book is intended for the general practitioner. It is small, the text is concise; yet, it is full enough to enable the physician to do everything that he can do and for which it is not necessary to refer his patients.

ADAMS: "ACUTE ABDOMINAL DISEASES"

Diagnosis and Treatment of Acute Abdominal Diseases Including Injuries and the Complications of External Hernia. By Joseph

E. Adams, Surgeon to St. Thomas' Hospital, London, Eng. Second Edition. New York: William Wood & Co. 1923. Price \$6.00.

The differentiation of acute abdominal diseases from diseases which may simulate acute abdominal lesions is often exceedingly difficult, and even the most experienced and careful clinician is likely to make mistakes. It is true that, when the volvulus, which he has diagnosed, proves at operation to be a strangulated ovarian cyst, it is only his pride which suffers—the patient is none the worse. The essential point is, to recognize at once when laparotomy is necessary and when delay is safe. It may happen that a mistake in this differential diagnosis entails a second incision, as for example when a gastric perforation has been mistaken for appendicitis; but this is a minor error, once the abdomen has been opened.

However, certain conditions which should be treated medically may present symptoms suggesting the need of laparotomy. Yet, to do this operation on the first day of a lobar pneumonia is a distressing and, it may be, a fatal blunder; but an even more hideous mistake is the treatment of peritonitis by expectorants and poultices. Yet both these offenses against diagnostic accuracy are committed from time to time.

If it is realized that specific fevers like scarlet fever, enteric fever, influenza, diphtheria, mumps, cholera may present symptoms that suggest abdominal lesions calling for operation and that similar symptoms may be present in intrathoracic diseases, like pneumonia, pleurisy, cardiac diseases, etc., it will be realized that a study of actual surgical abdominal troubles is of great importance. Even diseases of the nervous system, also Addison's disease, various kinds of vomiting and some other kinds of *maladies* may mislead the physician in his diagnosis and may cause him to advise operation.

The book before us contains a very careful and detailed study of those abdominal conditions that actually call for surgical relief. There can be no doubt about its great usefulness, and the fact that it is offered to the medical profession by a British surgeon adds to the interest, in a way, even though American physicians are proud of the fact that their own surgeons are second to none the world over.

"THE ENDOCRINE SURVEY"

The December issue of *The Endocrine Survey*, published by The Survey Publishing

Company, Glendale, Cal. (Monthly, \$1.00 a year), contains a number of interesting articles, some of which are the following:

Parathyroid Prevention of Calcium Loss.
Pituitary Aspects of Epilepsy. Is Thyroxin Excess the Cause of Hyperthyroid Symptoms?
Endocrine Features of Mental Disease—and numerous other items.

It is an interesting little journal.

MADAME CURIE'S BOOK

It was only after urgent persuasion that Madame Curie promised to write the story of her life for publication. "It will not be much of a book," she said. "It is such an uneventful, simple little story. I was born in Warsaw, of a family of teachers. I married Pierre Curie and had two children. I have done my work in France."

Her book is published under the title of "Pierre Curie," for Madame Curie preferred to lay the chief emphasis on her husband's career and their joint scientific work, but she consented to include in the volume some autobiographical notes, which tell the story of her own life and her recent trip to America.

The volume is illustrated with photographs of the Curies and the famous laboratory where their discoveries were made.

[Concluded from page 55]

and worthy members of the Profession, but the services of such gentlemen are most properly sought by the all-around practitioner who knows something not only about the part requiring particular attention but the condition of the individual generally.

Very humbly, I again venture to advance the opinion that, though there are many things the experienced General Practitioner cannot know, he knows a whole lot more that is of value to the sick than any Specialist—specialize he never so wisely.

Further, that, despite the fact that we "know nothing and can do nothing," we *think* we know enough to accomplish most ordinary and some very extraordinary things—and, as a rule, manage "to arrive!"

For which, *Te Deum Laudamus*.

A Happy and Prosperous New Year!